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GEOGRAPHIC ASPECTS OF INTERNATIONAL RELATIONS

KENNIKAT PRESS SCHOLARLY REPRINTS
Dr. Ralph Adams Brown, Senior Editor

Series on
MAN AND HIS ENVIRONMENT
Under the General Editorial Supervision of
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GEOGRAPHIC ASPECTS OF INTERNATIONAL RELATIONS

[LECTURES ON THE HARRIS FOUNDATION 1937]

CHARLES C. COLBY, *Editor*

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KENNIKAT PRESS
Port Washington, N. Y./London

GEOGRAPHIC ASPECTS OF INTERNATIONAL RELATIONS

First published in 1938
Reissued in 1970 by Kennikat Press
Library of Congress Catalog Card No: 73-113283
ISBN 0-8046-1320-6

Manufactured by Taylor Publishing Company Dallas, Texas

KENNIKAT SERIES ON MAN AND HIS ENVIRONMENT

FOREWORD

The Thirteenth Institute of the Norman Wait Harris Memorial Foundation dealt with the geographic aspects of international relations, emphasizing the lands tributary to the Atlantic Basin. Three major concepts were brought out, namely, that large overseas outlets for population no longer exist, that through state intervention in economic life the world has a new international pattern, and that internal policies adopted by nations may yield profound international complications.

According to the first thesis, there remain no large, sparsely peopled areas sufficiently attractive to occasion large flows of population overseas. The great pageant of human migration by sea is past. Vacant land has ceased to be the principal center of gravity in the migration of people to distant areas. If this concept is true, it will affect international relations profoundly.

Under the second thesis, it is argued that state intervention in economic life has changed and is changing the relations between nations. Trade has been restricted and rechanneled; national rather than international trade has been emphasized; financial arrangements between nations have been broken, remade, and rebroken; and government

edicts and policies have increased, rather than decreased, international tension. According to this thesis the geographic equation is no longer as simple as it was before the World War. Human use of land and other national resources in many cases is becoming more complex rather than more efficient. The localization of manufacturing industries in direct relation to raw materials or markets, or in strategic position between them, for example, is not the rule under the nationalistic policies of certain states. Political ambition or emergency thus challenges time-honored policies based on the principles of economic geography.

The third important concept emphasized by the Institute is that internal or domestic policies adopted for a nation's good may affect other nations for good or bad. National plans and policies, therefore, need to be viewed not only in their internal but in their external implications.

As might be expected in a discussion of the geographic aspects of international relations, such fundamental questions as the use of land, water, and other natural resources came prominently into the work of the Institute. Thought along these lines gains new point and new force in the arguments for a national plan and policy for the control and use of water resources presented in this volume. Whereas in the past local use without regard to regional or national interests has been the

rule, it is argued that a national plan should take into consideration not only all the needs and uses of water but also all the areas concerned. The use and control of a river, for example, may involve intercity, intercounty, interstate, and international relations. The rights and responsibilities of all these interests must be weighed in the preparation of a well-balanced and integrated water plan.

Other parts of the Institute program dealt with boundary questions and territorial problems, especially in the lands tributary to the Atlantic Basin. It was brought out that international boundaries may remain unchanged for centuries and still not be removed from controversy, that no matter how skilfully they may be handled, some conflicting territorial claims probably cannot be settled to the satisfaction of all the contending nations, that new maps of population, surface configuration, vegetation, and occupance in South America throw light on the present and probable future distribution of settlement in that continent, and that reshaping the political map of colonial areas raises questions of great diversity and great complexity.

The lectures and round-table papers which formed the basis of the discussions of the Thirteenth Institute are published in this volume. Each in its turn deals with some problem of the international scene. Taken together, they reveal

something of the geographic approach to international problems and, it is to be hoped, represent progress in the complicated field of political geography.

CHARLES C. COLBY, *Editor*

UNIVERSITY OF CHICAGO
March 20, 1938

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POPULATION OUTLETS IN OVERSEAS TERRITORIES

By Isaiah Bowman

POPULATION OUTLETS IN OVERSEAS TERRITORIES

TERRITORY FOR PROFIT

The world has witnessed four hundred years of western colonization from European spawning-grounds. What were the original aims and objects of overseas conquest and ownership? To what extent have we come back to them? What distinctive features does territorial ownership bestow today? Does migration provide relief for overpopulation? What are the conditions and limitations of migration? What is the place of trade and profits in the colonial question?

Trade was the primary and often the sole object of the "plantings" by private adventurers, kings, and national parliaments that took a hand in the exploitation of newly discovered countries. The East India Company was a trading company. Its object was to make money. The eastern and western sides of the Atlantic were in striking contrast at the time of the Discovery: the one had relatively dense populations and abundant goods for frontier types of trading; the other required white settlement before it was possible fully to exploit the native populations or the lands they occupied.

Whatever the priests and missionaries might say about the cross and however fashionable it may have been to speak of enlarging "His Majesty's glory and kingdoms," trade was the recognized road to wealth, and land settlement through vigorous migration was merely one of those ultimate purposes that had rhetorical value but was of little day-by-day concern. The examples of Venice and Genoa were in all adventurous minds for more than a hundred years after the Discovery—and, indeed, long after the first settlements were established in the New World. The merchants of the Low Countries had taught the value of Florentine artisanship. The cities of northern and western Europe were now to have their turn. In John Speed's *The Theatre of the Empire of Great Britaine* . . . . (1676) is a dedication by E. Phillips to Sir Joseph Sheldon, lord mayor of the city of London, and to the aldermen and sheriffs, who were referred to as "the Powers of that Supreme City, whose prosperous Trade distributes Wealth and Honour to the whole Nation, advancement of Revenue to our Soveraign, and a large supply of Things useful and necessary even to the most Fertile of Forreign Regions."

Almost every colonial prospectus dealt with profits; and settlement, when it came, was generally regarded as a way of securing more profits—for the metropole. How completely profit in trade was the preoccupation of some of the early American colo-

nial ventures may be illustrated by the experience of the French West Indies. The time had come, on the eve of Colbert's ministry, for desperate effort to lift France out of the low economic level to which she had sunk. By the middle of the seventeenth century, industries were in a state of decadence and the Dutch and the English "had largely supplanted the French as furnishers of woollens to the markets of Europe."[1] In 1664 there were not two hundred vessels in good condition in the ports of France; whereas sixteen thousand out of the twenty thousand vessels in the merchant marine of Europe sailed under the Dutch flag, and to the Dutch the French paid, according to Colbert's estimate, an annual tribute of four million livres.

It became Colbert's first task to shake the French out of their attitude of disdain for commerce and their preoccupation with offices of state and their pursuit of pleasure. "There is something stupendous in the way in which he projected the East and West India Companies." He obtained subscriptions from investors of all ranks throughout France, appealed to national pride, and embarked upon a policy of exclusively French colonial trading in French possessions and of subjection of the interests of the colonies to the mother-country. Planters and slaves alike were squeezed—and the profits flowed to France. Colonial exports to Eu-

[1] Stewart L. Mims, *Colbert's West India Policy* (1912), p. 1.

rope far outweighed imports. Instead of profits going to enrich the traders of Holland, they were turned to enhance the power of France. In twenty years he had driven the Dutch from the French West Indies, and two hundred French vessels were trading annually at Martinique, Guadeloupe, and Santo Domingo.

Almost every country that has a dense and virile population and that can support power upon the sea looks across water to underdeveloped lands or relatively vacant lands and covetously regards them. The Anglo-French agreement signed just a few years before the World War envisaged the possibility of the collapse of Portugal and the division of its colonial territory among the great powers—with international collaboration in the division of the spoils. The British Empire Conference of London, as late as June, 1937, considered the extension of British claims in some of the remaining sectors of the Antarctic continent, largely on the conjecture that additional resources *may* be available and *may* one day become of great or even vital importance. Riches and special power to gain more riches—these are the right and left hands of the territorial argument.

The number of those who settled in the new lands of America remained astonishingly small during the first few centuries following the Discovery. An authoritative French list of all the known lands

of the world, dated 1557, gave America but a minor place along with odds and ends of territory, including the Fortunate Isles! I shall not dwell at length on the forces that for a long time either precluded or severely limited migration but shall come at once to the Industrial Revolution, which (1) greatly stimulated the growth of landless city-populations whose hopeless poverty and crowded condition were put by one writer after another into juxtaposition with hopeful pioneering in "lands of promise" overseas, and (2) changed the standard of living in new countries by greatly expanding the variety and lowering the price of manufactured goods. Both the risks and the discomforts of colonization were reduced.

Technical arts and swifter means of communication gave a fresh impetus and a new outlook to life on distant frontiers. The "inexhaustible West" of America drew the world's attention. Canal and railway construction in a later epoch seemed but to increase its capacity and significance. On the heels of settlement came the heavier industries and enhanced population-absorbing power. In growing volume the stream of migration flowed to North America and South America until, in the period 1903–13 it reached a maximum of over a million persons a year to the United States alone. The World War ended the period of large-scale overseas migration of industrial workers and frontier settlers

and emphatically closed an era of western expansion that had opened three hundred years before. Since the war we have had quotas in all of the important receiving countries, and people are now all but locked within their national territories.

We are now in the midst of a world-war of tariffs and trade advantages through closer control of either raw materials or markets. The ammunition in that war is money, and we are asking: Where can it go profitably, with what security can it go, and can it go into territory that is politically controlled by the country of origin, or must it endure the risks that are inevitable when private capital seeks employment in foreign lands? Those risks always come in pairs. At the receiving-end there is the risk of wholesale bribery or demoralization of the government or commercial system of a country that obtains easy money and that has but a weak or untried social and political structure; and at the sending-end there is the risk of pressure upon government to follow private capital and force its profitable employment.

We recall, in this connection, President Hadley's line, the most important one in his book on economics published in 1896. It is the subtitle of the book and reads, "An Account of the Relations between Private Property and Public Welfare." In the international field, considerations of public welfare have

changed the public attitude toward foreign lending with government support, lest the ensuing complications increase the risk of war. On the chessboard of world-trade we have not yet reached stalemate, but we are playing the pieces in a way that invites that outcome. American capital cannot be employed in foreign countries except at high and purely individual risk. Fear and temporary prudence have sought a way out of this dilemma through autarchy or self-containment.

Back of the rising trade walls of the post-war period new forces gathered, and the first release of those forces took place in Ethiopia. Throughout her campaign Italy propagandized three principles: first, that under the Pact of London (1915) she had been promised African territory that she had never received; second, that she was overpopulated at home and on humane grounds absolutely required a place in the underdeveloped territories of Africa; and third, that the Ethiopians had unjustly attacked Italian nationals in adjacent territory. Hitler's voice was heard soon afterward in reiteration of the doctrines of "Mein Kampf." His Nüremberg speech in the autumn of 1936 played up the economic and territorial imprisonment of Germany and the advantages of a vigorous eastern-European policy, including control of the Ukraine, its grain fields, its mineral deposits.

THE END OF AN EPOCH OF MIGRATION

As for the specific question of population outlets in overseas territories, are there empty or underdeveloped lands that could be made to provide homes for European populations? Where are such lands to be found? Under what conditions are they governed? What is their capacity to receive population? What are the political, social, and economic restraints upon population movement? Is it true that a way has been overlooked to relieve population pressure at home by an enhanced migration to politically available new territory?

The classical argument, with respect to colonies of supposed interest and value to a mother-country, runs as follows: (1) that colonies may contain resources (deposits, products, or "wealth") of a kind not obtainable elsewhere; (2) that colonial settlement creates new bodies of potential consumers whose demands stimulate production in the mother-country; (3) that a colony provides opportunity for the employment of surplus capital by the mother-country. But the classical argument only generalizes the practices of its time. Modern elements have entered the problem. There is a new outlook. The world has been divided up, and industry has spread to far corners. Japanese light bulbs, bicycles, and cotton goods undersell German products in Germany; some Japanese cotton goods are marketed in England and America; Czechoslo-

vakian shoes are retailed in Boston; Argentine wheat was imported last year to pay for American-made agricultural machinery exported the year before! Geography still gives one place an advantage over another; but man can, so to speak, force the issue with nature, up to a certain point. Agricultural chemistry has changed the meaning of geography over large areas. Skilled labor can now be developed on the spot where other resources and needs invite machinery.

The population of the world has become stabilized in a certain sense: the vast but distinctive culture zones of wheat, maize, rice, sugar, cotton, and so on, have all been discovered, exploited, occupied. No new Thanksgivings are likely to be established on the basis of discoveries like maize and squash, though we have learned in a measure to invent (breed) new foods. Certain it seems that the great historic shifts and shapings will not be repeated.[2] Except in the Antarctic there is no land left to claim. The pioneer fringes of the world that might support a much larger population are composed of marginal land—too hot or too cold, too wet or too dry, or too remote. If colonization is to be either national or successful in such localities, experts are required to plan out measures in advance. An appraisal or inventory of the resources

[2] Carl O. Sauer, "The Prospect for Redistribution of Population," *Limits of Land Settlement* (Council on Foreign Relations, 1937), p. 23.

must be made. Population capacity and the well-being of settlers cannot be guessed at or left to an office of propaganda. New technical accomplishments in chemistry, agricultural machinery, seed improvement, and special techniques of cultivation must be examined and their degree of applicability determined. Changes in transport facilities also play their revolutionary part, and political and economic aims must be taken into account. The Soviet effort to develop and populate Siberian territory bordering on the Arctic is for the double purpose of extending land occupation and of increasing the strategic value of the Northeast Passage in the event of war between Russia and Japan.[3]

MEASUREMENT OF CAPACITY

Population capacity, under given conditions, is the question we aim at in a study of the world's pioneer fringes. Geographers were once called "environmentalists." Some are better described today as "capacitators." They are devising new techniques whereby the capacity of territory may be determined under given conditions with full recognition, of course, of variables and intangibles. Heisenberg's "principle of uncertainty" can never be lost to view. We are already acquainted with the effect upon land occupation in the Canadian

[3] To cope with the problem, a special people's commissariat has been established, called the Superior Bureau of the Northern Maritime Route.

prairie provinces of a shortened period of growth and maturity for wheat. This has been one of the main factors in the wide deployment of farms to amazingly high latitudes in Saskatchewan, Alberta, and British Columbia. In 1935 it was reported that Professor Vavilov had found that by artificially beginning germination of wheat and other plants, and then keeping them for a time in cold storage, more than a month can be gained in their ripening. This will enable them to be grown in the short Arctic summer much farther north than has been possible hitherto, and the population and production "capacity" will be altered accordingly.

Occupation of the remaining underdeveloped lands will be for subsistence mainly. Commercial agriculture is concentrated, in general, in the central optimum region of a staple area, not on its periphery, where limits are passed at the cost of increasing risk. While mere subsistence farming means a lowered standard of living, there is no more need to get excited over it than about the differences in urban standards that arise in even a reasonable, if not an ideal, society through the inescapable differences in the abilities of men. Settlers may choose and even prefer life in a hut on the Arctic shore of Siberia rather than a city suburb, if their main object (perforce) is subsistence.

The course of empire now follows all compass directions. The earth's tolerance and man's resist-

ance and endurance (or ameliorative power) have been vastly widened by modern science. Much of the untilled land of northwestern China could be cultivated by *extensive* farming methods, if capital and the machinery for its administration were available. In Queensland a healthy white population, in latitude 15°, appears to be living a normal life and doing all the hard manual work without, as yet, definite evidence of deterioration. That evidence may come later. It is too early to make a final appraisal. It is amazing to what an extent white population has gone into the climatic fringes—tropical Queensland in contrast to northern Siberia. What these experiments and experiences forecast is that the population capacity of land depends not on its degree of vacancy but on the total available resources that people, science, technology, and market demand, plus transport facilities, make possible in combinations that in large measure are unique from region to region and from country to country.

No ready-made scheme of settlement can be set up that nicely balances the factors of race, region, climate, diet, and trade. Only the elements are available. No migratory groups are going to Russia today. Political and social conditions do not attract them, and Russia still struggles with the internal problem of finding land for her own people and "integrating" its markets and transport. Bra-

zil has enormous possibilities of expansion of cultivable land, but its low technological level and its loose political organization preclude firm centra guidance of the agencies that might provide enlarged settlement schemes in the broad and diversified territories where settlers have gone in recent years.

One conclusion stands out above the rest in a review of the existing possibilities or capacities: new land will accommodate too slow and small a stream of population to be of real importance to the countries of origin as a relief from so-called "population pressure." In our present nationalized world, in which the best lands have been occupied and restrictive measures are in force, migration is no answer to economic and social strain induced by so-called "overpopulation." Nor is military conquest either a practical or a rational answer. The struggle for additional territory as a step in empire-building can be understood; the hope that it will furnish an offset to a high birth-rate is illusory. No discernible or predictable stream of migration can keep pace with the birth-rates of conspicuously overcrowded countries.

PRESTIGE, SAFETY, AND POTENTIAL

Our four hundred years of colonization have given the student a vast fund of information about colonizing experience. But the experience of each

epoch is valuable largely in that epoch or in the one immediately succeeding. The histories of the great trading companies of the seventeenth century provide no clue to profitable or humane political action in the twentieth century. We can learn a great deal from them about morals and trade that still holds true, but we are able to learn little about popular reactions to the ownership of overseas territory or how to use earlier experience in devising colonial policies that will be supported by popular opinion. There is one truth that runs through the whole of our four hundred years of experience: overseas territory of the colonial type has a prestige value that has grown in time. It would shake the world to have any such transfers of territory made today as are represented by the settlement which closed the French and Indian War or by the Louisiana Purchase. Not only has "territory" become more valuable; political networks and implications have become more complex. Imagine England letting go of Egypt, *except* over several decades by slow stages with watchful concern over the immediate effect in Egypt and still more over the effect in India. Face-saving is as important among nations as among individuals. Whatever England does must be measured before the doing in terms of prestige among all her peoples out to the very rim of her world.

Safety also is a primary consideration in the modern world. A widespread colonial web both in-

creases and requires power. A navy is a form of national and imperial insurance to England. It has a huge advertising value also. These are among the reasons that support Great Britain in executing a seven-billion-dollar rearmament program. When her trade goes, England is gone. Whatever the premium on imperial insurance, England must pay. Her attitude toward the navy is that of a spent swimmer toward a floating log. He does not stop to think of it in terms of lumber. For the time being, the log has infinite value to him as a life-preserver. If he had seven billion dollars, he would gladly trade it for that log.

Again we may think of colonies in terms of national *potential.* This is a term borrowed from the physicist, and far too little use is made of its application to national policies and international problems. The American potential is large. We could grow much more food, support many more people. This is because the gap between our actual or present wealth and our potential wealth is wide. In Europe the gap is small; and some European countries seek to widen the gap, to increase the potential. Additional territory is a tangible and politically exciting evidence of increased potential. It seems obviously desirable to have under national control territories and people in reserve or *by way of supplement.* That is why the costs of colonial ventures in terms of the accountant's balance sheet tell us so

little. We can prove almost anything *against* colonial ventures, but colonies remain desirable things. They bring prestige that enhances the scope and power of the general trade of the mother-country; they act as insurance against a diminished supply of raw material resulting from restrictive measures that may be imposed by another possessing country; they create new markets; and they contain land supposed to be capable of supporting additional population.

In sum, colonies raise the potential of the possessing country and of other countries also—not by material measures and results merely, but by scientific and cultural advancement: tropical medicine, tropical plant experimentation, language studies, and the like, which are made available elsewhere and to everybody. It may cost too much at the moment to realize that potential. But in days to come that cost may be justified as autarchy or self-containment reaches levels of efficiency that mean still further devastation of world-trade. Agricultural chemistry widens the potential. Trade widens it. Soil erosion and oil exhaustion narrow it. The potential is like a capital reserve. Our national outlook upon the world changes as the national potential changes, and inevitably so.

A FIFTY-YEAR RECORD

Let us look more closely at the question of population. During the past fifty years, in spite of all

the migration that has taken place, the population of Europe has increased about 173,000,000,[4] while emigration from Europe has amounted to a little more than 19,000,000. Of these 19,000,000, but a half million have gone out to territories controlled by European nations. This is only 2.6 per cent of all the permanent emigrants and only about 0.3 per cent of the population increase in Europe. How much of this growth means overpopulation? The growth of industrial employment may be such as to take care of all but 13,000,000 out of 173,000,000; but if to this 13,000,000 were added 19,000,000, the effect would certainly be greater. Might it not be paralyzing? The nations that now suffer from overpopulation have found no permanent cure through the emigration of their nationals: they have only put off the day of reckoning. Japan and Italy (despite recent declines) are still beset by high birth-rates. They remain crowded.

Even the high immigration rates of the earlier years of this century provided no permanent cure. The arrival of the peak of the difficulty was delayed, but a peak could not be avoided. The problem of overpopulation in our modern world is apparently insoluble except through a diminished birth-rate or birth control. That in turn means a lowered military strength. Italy and Germany see

[4] Grover Clark, *The Balance Sheets of Imperialism, Facts and Figures on Colonies* (New York, 1936), p. 4.

Russia, the United States, and Great Britain growing in power and in gravitative pull upon smaller countries in times of crisis. They see their own nationals absorbed abroad and, after a few generations, lost to them. "It is estimated that the population in the United States of direct German descent numbers at least 21 million people, twice the population of Canada."[5] Their own potential is nearly gone. Mussolini's policy of *bonifica integrale*, or general reclamation, including the building of hydroelectric and hydroagrarian installations in the Alps and the Apennines and the reclamation of the Pontine Marshes, were the last home measures that seemed possible; after that—Ethiopia.

THE BOTTLENECK OF CAPACITY

Why do receiving-countries raise barriers to immigration? Is it reasonable to take the view that we ought to keep out the foreigner? In Canada a great deal is made of the process of Canadianization. It is considered undesirable that large blocks of foreigners should be settled in solid communities and that they should be without a knowledge of Canadian history and traditions and without the opportunity to become Canadian in outlook, Eng-

[5] Quoted by Richard Hartshorne in review of Max Hannemann's *Das Deutschtum in den Vereinigten Staaten: Seine Verbreitung und Entwicklung seit der Mitte des 19. Jahrhunderts* (Petermanns Mitt. Ergänzungsheft, No. 224 [1936]), in *Geographical Review*, XXVII (1937), 488.

lish in speech, modern in efficiency and intelligence. For these and for economic reasons the bars were put up until the matter could be tested by further thought and experience. In the United States, also, the melting-pot was thought to provide too slow an amalgamation of the elements. It is not necessary to point to the danger ahead, as we once did. The trouble is already here. In addition, our unemployment problem calls for immediate measures.

The fact is that the stream of migration must now go through a bottleneck, and the size of that bottleneck is determined by the capacity of a country effectively to receive immigrants. The process of receiving them was easier when they could be spread upon the land and bare subsistence was enough. At the close of the Revolution, 85 per cent of the population of the thirteen colonies was agricultural. Public health measures were then almost unknown. The responsibility for an epidemic was put upon God. In many ways the doctor was then a menace. Education was a privilege enjoyed by a few. Only a tiny fraction of the total population had anything akin to the so-called "higher education" of today. Social life and political life were so simple that the questions of assimilation and of attitude toward social and political problems had hardly been reached.

One hundred years ago a traveler from Boston passed through Albany on his way West to enjoy

the delights of barge travel on the Erie Canal. His letter mentions the rut holes in the streets of Albany, the hog wallows, the unkempt appearance of the town, and especially the large foreign population. But his concern was not with the attitude of the foreign population toward public and social questions, it was only that they were foreign and changed the complexion and speech of America. Soon afterward (1850) William Cullen Bryant published his *Letters of a Traveller*, in which he commented upon the large influx of French-Canadians in northern Vermont, but again without reference to their attitude toward political and social questions, only that the New Englander was being displaced by a group that was *different*.

We could multiply instances of the change that has come over our way of thinking. We now ask whether people are thinking *correctly* on certain issues, which means, do they think as we do and are they of our own opinion? Will they be safe? Will they be a drain on us or will they supply new strength? Do we need to expand? The attitude of Alberta toward a portion of the Peace River country that lies within that province is revealing. Since the World War over 50,000 migrants have gone into the region. They demand telegraph lines, good roads, schools, community doctors, and the virtually free transportation of their grain surplus part way to the points of export. The provincial

government cannot give them these things, first, because the rest of the province has more grain than it knows what to do with; and, second, because "the Peace" is marginal country. Until settlers have proved their capacity to remain in the region and grow crops profitably in these high-latitude climates, it is not certain that so heavy an investment will pay. Alberta would be better off, it is thought, if her wheat lands were limited to their present extension or occupied at a slower rate. If 100,000 people were to come in a single year, it would swamp the social services, increase the wheat export, augment the cost of freight differentials, and very greatly swell the public debt.

The bottleneck in the case of Alberta is the capacity of the province—in view of the world grain situation—to take more farmers. The essential thing in the process of absorbing immigrants is the *rate* at which she can expand her agriculture. If we now average in the rate at which other provinces (for similar reasons) can expand production and receive immigrants, we have a national rate, based not upon prejudice or a policy of self-containment but upon reason. Canada cannot move more than just so fast in meeting the problem, and "so fast" means very slowly at the moment.

In a similar way, country by country, we can examine the capacity of each pioneer fringe, each country of high potential and relatively low popu-

lation density, each settled community that may have additional absorbing power. Thus may be derived a world-rate; and that rate can be demonstrated to be so small as to accommodate only a trickle, not a river, of humanity. The rest of the world can receive but a small part of the surplus populations of Europe that would like to migrate. But do we find governments willing to export their surplus millions? A young man in Germany must complete a half-year of labor service and two years of military service before he can migrate, and the government denies him the privilege of exporting capital. All Jews, on emigrating, pay 25 per cent of their property to the state and, selling under pressure, they actually lose much more. Mussolini regards emigration of Italians as a reflection on Italian honor and a weakening of Italian military power. Italy has had controlled emigration since 1927.

New lands may have agricultural potential, but do they have social and trade potential? Brazil cannot organize and maintain an acceptable settlement service on a larger scale. She has hard work to manage the existing social services through which the fate of new settlers is determined. It is as if she said to the rest of the world, "You must wait until our social and political structure is more secure, until our technology is farther advanced—until we have grown up, in short."

An eminent economist recently said to me that,

relatively speaking, South America was an unpopulated country, an empty continent. According to Freise's recent estimates, Brazil could support 400,000,000 people.[6] We might be led to conclude, therefore, that with Brazilians numbering only 44,000,000 and German technology at a high level, marvelous results would follow if Germany owned Brazil! I grant the possibility of such an outcome, if we put aside for the moment the fact that German occupation of Brazil could be accomplished only through a world-war in which she was completely successful, and Germany would never be permitted by the United States to possess Brazil on any such absolute terms. Passing over these difficulties, let us assume that Germany is in control. Would emigration follow? It is as certain as night follows day that no general folk movement would take place. First and last, because it would not be necessary. If Germany were in control of Brazil, she would set up a new trade system, put additional labor upon the backs of Brazilians, restrict trade privileges to her own nationals, and so invigorate German economic life that there would be need at home for everyone now in Germany.

AIDED MIGRATION

The experience of the administrators of the British Empire Settlement Act of 1922 is illumi-

[6] Friedrich Freise, *Petermanns Mitteilungen*, Brasiliens Bevölkerungskapazität, LXXXII (Jahrgang 1936), 146.

nating with respect to aided migration that seeks to surpass natural tendencies. Under the necessity of finding work for those who were unemployed because of the dislocations produced by war, subventions were provided for approved settlement schemes. In 1925 Australia accepted collaboration with the United Kingdom in the application of the plan. The limit of British assistance was set at £7,083,000. For each £750,000 unit expended by Australia on agreed undertakings, £130,000 were to be paid by the British. For every £75 issued to a state government, one assisted migrant should sail direct from the United Kingdom to the state concerned some time within the period 1925–35. For every £1,000 issued to a state government, one new farm was to be provided, together with stock, seed, fertilizer, and fencing.

Western Australia was the scene of concentrated effort under the plan, but after a few years it was all but given up. Intending settlers often refused to avail themselves of the privilege of purchasing after a farm was cleared, fenced, stocked, and provided with buildings. The essence of the difficulty lay in the difference between an assisted migrant and what may be called a "natural" migrant. The decision of the one seems to be based upon the degree of assistance he will receive, while the decision of the other is based, in large part, upon his willingness to bet upon his own future. The one is asked

to make his great decision after he has been assisted for awhile; the other has made his decision before he has been assisted at all. The one continues to expect help from the government; the other expects to help himself.

We must not draw too far-reaching a conclusion from these antitheses. The world does not put the same premium upon the migrant's initiative and independence that it once did. Pioneering is a different business today. The pioneer fringe—most of it marginal territory, as we have seen—is a more risky place from the standpoint of health no less than from the standpoint of economics. Whether government *ought* to assist and sustain the migrant for a time is a debatable question, but that it *must* do so is not open to question if government expects its undeveloped lands to prosper. Whether we like it or not, the socialization of the world has reached a point where men, if they take risks, expect to be protected. This throws the question of population outlets into the lap of government. The improvement of the economic situation in the heart of a country can do so much more than the shift of population into new lands that the latter is a secondary and minor question compared with the former. It is marginal to the whole national policy. Governments may bewail the absence of colonies and the underdeveloped territories into which to expand; they may make their complaint a major

item in their relations with their neighbors; but they cannot rationally claim that such outlets are vital.

COLONIAL TRADE AS A SUBSTITUTE FOR MIGRATION

When it comes to the exploitation of inhabited territory whose benefits will serve as a substitute for the transfer of home populations, the question takes on a quite different aspect. Colonial imports and exports in the post-war world show a rising percentage of the total imports and exports of the mother-countries. France and Portugal grant preferences (preferential export duty) which divert trade in favor of the mother-country or other units of the same empire. The preferences in the case of Portugal are designed in part to help the Portuguese shipping industry. Some of the French colonial export duties are prohibitively high unless the materials are sent to French markets and in French bottoms. In the British Empire, preferential duty is paid on tin ore exported from Malaya and Nigeria to other countries than Great Britain. The object is to keep British tin smelteries in the Straits Settlements and Great Britain at work.

The exploitation of petroleum is reserved to British subjects throughout the British colonies. The inevitable result of restriction schemes established by the colonial powers has been increased prices on the world-market to the detriment of the

trade interests of noncolonial powers. Working in the same direction are the preferential import duties which keep the colonial market for the colonial power, thus raising the price of even the cheapest goods to the natives. An example is the decline of sales of Japanese cheap cotton goods into British dependencies where quotas were applied: 51,000,000 yards in the first quarter of 1934 to 10,000,000 yards in the first quarter of 1935.[7]

Direct action itself may not be required to secure the major part of the import and export trade of a colony, since the advantages of a common language and currency are both direct and powerful. Especially is this the case with currency since 1931. Whatever the currency situation in a given country, the government can easily integrate the commerce and finance of a colony with those of the suzerain. France pays for products of her colonies in paper francs instead of with gold or foreign currency. Moreover, the tariffs help the French merchants and producers who invested their capital in French colonies. French steamship lines carry most of the goods between France and her colonies, and French importers and exporters handle the trade of the colonies. The net effect is that a considerable part of the production of automobiles, tools, metal ware, apparel, and steam engines goes to the French

[7] B. S. Keeling, "Colonies: The Economic Case Examined," *Contemporary Review*, February, 1937, p. 197.

colonies. In 1934, 78.8 per cent of French cotton fabrics went to the French colonies.

The meaning of these conditions and figures will not be appreciated unless we keep in mind the depressed state of world-trade during the past ten years and the growing significance of that which remains, combined with the steadying influence of the colonial portion of it that can be put under definite controls having the force of colonial tribute.

There are costs to offset these gains. It is concluded by more than one analyst "that the French colonies, from an economic point of view, have been an unprofitable venture for France, and that they will probably remain so for many years to come."[8] Nevertheless, it deserved emphasis that no accountant's balance sheet tells the whole of the story. Capital gains and losses, interest on investments, export and import figures, and so on, each is a sector of the national circle, not the whole of it. Political, military, and psychological factors also help determine the ultimate worth of territory and its trade. If we examine the military expenses of French colonies, we find that they exceed by many times the contributions for civil purposes. But the French regard this as insurance in case of war on the Continent and attach just as much importance to it as Great Britain does in seeking national insur-

[8] C. Southworth, *The French Colonial Venture* (London, 1936), p. 131.

ance through a powerful navy. War includes unpredictable factors of strength and weakness; but its demands for man power, food, and raw materials are inexorable. In the final stages of a struggle these things count most, and the national life of France may depend upon her ability to command access to such necessities. In other words, France is also thinking of the Rhine when she settles her bill for colonial development.

The imports of France from her colonies increased in the past ten years from about 10 to about 25 per cent of her total imports, and her exports to the colonies increased from about 15 to about 30 per cent of her total exports.[9] The share of the British dominions, colonies, and protectorates in the imports of Great Britain rose during the past twelve years from about 31 to about 42 per cent, and their share in British exports rose from about 41 to about 49 per cent.[10]

[9] These increases are relative only, but they are almost as important as if they were absolute. The total export and import trade of France has declined (20 per cent in imports and 26 per cent in exports, from 1929 to 1935), and this raises the percentage figures of colonial trade, which is only a little below the level of 1925–28.

[10] The French colonial possessions as a whole had the following foreign trade in 1935 (*Bull. de la statistique générale de la France et du service d'observation des prix*, XXVI [January–March, 1937], 198):

Total imports	8,850 million francs
From France	5,250 million francs
Ratio	59.3 per cent
Total exports	8,200 million francs
To France	5,650 million francs
Ratio	58 9 per cent

[Footnote continued on following page]

The depression would have affected France much more severely had she not had the markets of her colonies under her control. Her reliance upon them is increasing as her dependence upon foreign countries is decreasing. In the process a tariff barrier provides the possibility for higher profits for her industries. Working in the same direction is the advantage of greater stability of exchange relations in the importation of goods from her colonies.

In presenting the case of the return of the German colonies, Dr. Schacht names two conditions as essential to the solution of Germany's raw-material problem.

"First, Germany must produce her raw materials on territory under her own management. Second, this colonial territory must form part of her own monetary system. Colonial raw materials cannot be developed without considerable investments. Colonial markets are not of the kind that can live by the personal needs of the native population. Shirts and hats for the negroes and ornaments for their wives do not constitute an adequate market. Colonial territories are developed by the

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The foregoing figures include the intercolonial trade, which increases the import ratio by 7 per cent and the export ratio by 4.7 per cent.

It is interesting to compare these figures with those of Morocco (*ibid.*, p. 195), where we have free trade. French industrialists have the advantage that practically all *government* orders follow the flag.

	1935
Total imports	1,138 million francs
Imports from France and Algeria	453 million francs
Ratio	39.8 per cent
Total exports	627 million francs
Exports to France and Algeria	349 million francs
Ratio	55 6 per cent

building of railways and roads, by automobile traffic, radio and electric power, by huge plantations, etc.

From the moment that the German colonies came under the control of the Mandate Powers, Germany was cut off from the delivery of goods required for such investments. In 1913, for example, Germany's exports to Tanganyika formed 52.6 per cent of that area's imports; in 1935 they formed 10.7 per cent. The British mandate power as a matter of course places its orders in England and not in Germany or elsewhere. That is the reason why Germany needs colonial territories which she herself administers. Since, however, the development of colonies depends upon long term investments, and these investments cannot be made by the native negro population, the German currency system must prevail in the colonial territories, so that the required investments may be made with German credits."[11]

Besides pointing to the growth of trade between Great Britain and France, on the one hand, and their colonial possessions (including the mandated areas), on the other, German writers have pointed to the greater need of Germany in the post-war world for precisely these relations and this access to needed raw materials. The technological achievements of the post-war period have been even more revolutionary than those of the war period. Had Germany been provided an outlet in her colonies, so the argument runs, she would have surpassed England and France in the rate of her colonial development. While the effect upon population migration would have been small, no doubt the effect upon employment at home would have

[11] Hjalmar Schacht, "Germany's Colonial Demands," *Foreign Affairs*, XV (1937), 233.

been far greater. In other words, trade and employment are the right and left hands of the argument, and it is the total effect upon both that today lends importance to overseas territory.

Before the war, free trade, or something closely akin to it, was the rule, and Germany was under no economic compulsion to develop her colonies at a rapid rate. Her investments went into the world-market, and her lines of commerce corresponded with the major lines of world-trade. Her record in colonial development before the World War compares favorably with other colonial powers. In the present world, with trade narrowly channeled, with a vastly increased debt burden, and with acute currency problems that make it difficult to obtain foreign exchange with which to buy raw materials, Germany almost certainly would have developed her colonies more intensively because of her greater need. Dr. Schacht reviews the advantages of ownership as sketched above and concludes that colonial development *in the pre-war years* is no measure of what Germany would have done if she had been allowed to retain her colonies. On this point the change that has taken place in the status of Germany and Great Britain, in German East Africa and German Southwest Africa, tells a convincing story. Tables 1, 2, and 3 present an extraordinary and basic set of facts.

Finally, Germany contends that colonization is

the product of the surplus energy of a people, whether in wealth or population, and that France and Great Britain, with their far-flung territories and peoples, do not have at home the surplus

TABLE 1

TRADE OF FORMER GERMAN EAST AFRICA WITH GERMANY AND GREAT BRITAIN

(In £1,000)

	Total Imports	Total Exports	Imports from Germany	Imports from Great Britain	Exports to Germany	Exports to Great Britain
1912.....	2,463	1,538	1,263 9	121 4	872 8	164 5
1935....	2,990	3,354	317.7	866.0	250 0	710 2

TRADE OF FORMER GERMAN SOUTHWEST AFRICA WITH GERMANY, SOUTH AFRICAN UNION, AND GREAT BRITAIN

(In £1,000)

	Total Imports	Total Exports	Imports from Germany	Imports from South African Union	Imports from Great Britain	Exports to Germany	Exports to South African Union	Exports to Great Britain
1912..	1,591	1,911	1,294.3	194.1	14.6	1,588.6	17.5	4.1
1935..	1,499	2,454	191.7	1,039.7	69.3	326.1	756.7	1,151.0

energy that Germany displays. Australia and New Zealand may have had strategic and economic need for the territories which they took over, but they cannot claim that they are shut in or hemmed

TABLE 2

The Role of the German Colonies in the Import of Certain Products into Germany, 1912 and 1932*

	Year	(I) Total Imports into Germany from All Sources (in Tons)	(II) Imports from German Colonies (in Tons)	(III) II in Percentage of I	(IV) Exports of German Colonies (in Tons)	(V) II in Percentage of IV	(VI) IV in Percentage of I†
Coffee....	1912	170,867.0	344.3	0.2	1,575.4	21.8	0.9
	1932	130,295.6	136.7	0.1	11,697.9	1.2	8.9
Cacao, raw	1912	55,085.0	1,263.9	2.3	5,643.7	22.4	10.2
	1932	78,020.6	1,286.5	1.6	29,880.8	4.3	38.3
Peanuts...	1912	69,870.0	1,963.8	2.8	6,161.9	31.9	8.8
	1932	242,614.0	52.3	0.02	19,289.5	0.3	7.9
Palm kernels....	1912	261,408.0	15,634.2	5.9	26,738.5	56.6	10.5
	1932	307,845.5	407.7	0.1	43,986.5	0.9	14.3
Copra....	1912	183,258.0	11,822.4	6.4	32,906.8	35.9	17.9
	1932	130,638.9	2,074.8	1.6	90,276.8	2.3	69.1
Cotton...	1912	506,981.0	1,294.9	0.3	2,432.5	53.4	0.5
	1932	374,715.9	.....	.....	6,037.3	.....	1.6
Sisal.....	1912	3,208.0	2,269.5	70.7	17,100.8	13.3	533 0
	1932	35,366.6	6,369.2	18.0	60,554.0	10.5	171.2
Rubber...	1912	30,218.0	3,038.9	10.1	4,215.3	72.1	13.9
	1932	48,505.7	33.1	0.01	268.8	12.3	0.6
Phosphate	1912	902,844.0	44,257.7	4.9	193,125.0	22.9	21.4
	1932	407,916.2	.....	.....	680,125.0	.....	166.6

* Wilhelm Bast, "Die Einfuhr des deutschen Reiches aus den Tropen, 1897–1932," Zweites Beiheft zur *Kolonialen Rundschau* (1936), p. 106.

† I.e., if Germany took the whole of her colonial export as she would in a barred world.

about. The same may be said of the Union of South Africa. The point gains in force in the case

TABLE 3

THE SHARE OF TRADE WHICH GERMANY HAD IN 1912 IN CONTRAST WITH THAT OF 1935

	Tanganyika Total Trade (in £1,000)	Germany's Share (in £1,000)	Percentage
1912.....	4,001	2,136.8	53.4
1935.....	6,344	567.7	8.9

	Southwest Africa Total Trade (in £1,000	Germany's Share (in £1,000)	Percentage
1912.....	3,502	2,882.9	82.3
1935.....	3,953	517.8	13.0

	Cameroon Total Trade (in Fr. 1,000)	Germany's Share (in Fr. 1,000)	Percentage
1912*.....	71,080	58,092	81.9
1935†.....	186,618	11,673	6.2

* 1912, total area of Cameroon, about 790,000 sq. km.

† 1935, French Mandate, about 431,320 sq. km.

of South Africa when we look at the situation in the diamond industry and the copper industry. In these two products, as well as in live stock, Ger-

man Southwest Africa had interests that were common to those of the Union. Therefore, in spite of the greater costs of production of diamonds in the Union, the diamond fields of Luederitz Bay discontinued production. The copper mines also ceased operations which would clearly not have been the case under German administration, since Germany buys her copper on the world-market.

What has been the effect upon the Western powers, so far as population movement is concerned, of their enormous expansion of territorial control since 1878—over 8,500,000 square miles? In 1913, twenty years after Germany had obtained most of her colonies, there were fewer than 20,000 Germans of all occupations in all the German colonies. "In 1931 there were less than half as many Europeans of all nationalities in all the Italian colonies than there were Italians on the island of Manhattan in New York."[12] "Between 1865 and 1924 over 17,000 more Hollanders *entered* the Netherlands from the Dutch colonies than left for these colonies. . . . ." One could go on with similar statements for the Japanese colonies and the French colonies in Africa. "For the 118 years, 1815 to 1933, only 3.5 per cent of those who departed from British ports for overseas destinations had British territories other than the Dominions-to-be as their

[12] Grover Clark, *The Balance Sheets of Imperialism* (New York, 1936), p. 10.

destinations." "In 1930 the number of foreign-born whites living in New York City was more than seven times the total of the European emigrants who have settled permanently in Africa in the past century: 300,000."

The trade statistics of these overseas possessions show clearly that the expenses of the colonial establishments of European powers, plus the costs of administration in the past half-century have been much more than the profits in trade with them, even if we allow nothing for the loss of human lives and the contribution which colonial rivalry made to the web of intrigue, rearmament, and nationalism that entangled the powers in the World War.

THE PHILOSOPHY OF REASON

There is little wonder that the International Studies Conference meeting in Paris on June 28, a week from today,[13] should have upon its agenda the question of colonies with the object of approaching a rational system of territorial adjustment, equality of treatment in the colonies, and the protection of native interests, together with a reasonable degree of equality in the distribution of trade privileges among the powers. Is it possible to bring about over the years to come a more healthy attitude toward colonial possession and a

[13] [President Bowman's lecture was delivered, June 21, 1937.—EDITOR.]

minimization of a struggle that can only lead to unbalanced blocs of national interests and future wars? Wakefield argued for a consideration of some of these questions more than one hundred years ago. The rationalists have continued the discussion down to this day. The idealists of the present hour are discussing them. Is the world ready for a revision of judgment, for a fresh appraisal of the forces that make for envy and strife, and for a concerted effort to make adjustments in the interest of peace?

The trouble with such a philosophy is that it is based upon reason, and we are not yet reasonable creatures. Emotion still plays its dominant role in human affairs. The demagogue stands in the way of any nation giving up anything. Officials still think everywhere in terms of votes. Is calamity itself capable of teaching a people anything? We cannot yet forecast the contingencies which breed calamity. We do not share with Odin the privilege of drinking the waters of the Spring of Wisdom by which events are foreseen. We are wise only in retrospect. When we put reason over against emotion, we are comparing incomparables. We seem capable of taking only one *or* the other. It must become the business of statesmanship as it has become the avowed, if not the dominant, object of education to show men that they ought not to believe in what they desire if it is not reasonable to

desire it. This lesson calls for the inspiration of a great faith in reason, and an uplifting of examples of triumphant reason and the beneficent results of its application.

INTERNATIONAL ASPECTS OF STATE INTERVENTION IN ECONOMIC LIFE

By Pierre Denis

INTERNATIONAL ASPECTS OF STATE INTERVENTION IN ECONOMIC LIFE

I. TECHNIQUE OF STATE INTERVENTION IN ECONOMIC LIFE

International relations are relations between states, and international problems are problems raised by the policies of states.

Let us start from a definition of the "state": It is not to be confused with the nation or the country; superimposed over the nation, it is a machinery, established to fulfil certain functions of general interest to the people, controlled by a government, and acting through an administration. Its wealth is not to be confused with the wealth of the private citizens; as a matter of fact, the distinction between the state's economy and the economy of the private citizens is such that the state's debt is an asset of the private citizen, and the expenses incurred by the state represent an important element of income for the private citizen.

The strong organization of certain states, such as Egypt of the Pharaohs or the Netherlands today, can be explained largely by the necessity of having an administration able to cope with certain essential economic functions and to execute certain

public works of capital economic interest for the country. Generally speaking, however, the main functions of modern states have not been economic, but rather more of a social nature, such as the maintenance of internal order, or of a political nature, such as territorial expansion, conquest, or defense. The growth of the state's economic functions came late, but it was remarkably rapid.

There are several theories of the nature and the functions of the state, each of them worked out by philosophers and advertised in bright, eye-catching colors by modern party propaganda. According to one of these theories, the state is an entity in itself, over and above the private people who compose the country; and it is entitled to demand the sacrifice of any individual interests. This is the Fascist conception of the state. The democratic state, on the contrary, is a device to bring about the prosperity and happiness of the individuals; and its machinery is controlled by public opinion, as expressing the individuals' views about their prosperity. A third theory is represented by the communist state. This state also is constituted with a view to serve the interest of the individuals; but it keeps for itself the task of defining what conditions will make each individual happy and guards carefully against the individual's introducing disorder by himself choosing his program of success or using private wealth to limit the freedom or the happiness of others.

The remarkable thing is that these three forms of states, based on theories which are not only different but divergent, have in practice, during the last generation and especially since the war, applied closely similar methods of intervention in economic life. They have confiscated or restricted rights of private ownership, leaving to the private owner only the choice of seeing his property expropriated or of holding it as a trust for which he is responsible to the community, as represented by the state. Profit largely has been eliminated or restricted and, when maintained, is now generally based on some form of state protection. In all circles of life, in the whole conception of the relations between the individual and the state in our daily thought and action, the growing intervention of the state in the economic life has introduced far-reaching changes.

This subject, the theory of the state and of its economic functions, has been for a long time the main topic on the agenda of what is probably the greatest international organization for research and discussion—I mean the International Studies Conference, organized by the Institute for Intellectual Co-operation of the League of Nations. The 1937 meeting of this conference, held in Paris, dealt with one important aspect of this general problem, namely, international differences resulting from conflicting national programs, especially on

such points as distribution of colonies, access to raw materials, and outlets for population. National programs on these matters are, of course, based on the economic policies followed by each state. The question before the conference will be to investigate how, and according to what procedures, the necessary changes could be brought about in such matters without having recourse to war. In the international vocabulary this is called the "problem of peaceful change."

The aspect of the international problem which I plan to consider in these conferences is, however, a different one. All countries have passed, during the last few years, through difficult economic circumstances. The depression, it is true, did not affect all of them at the same time, but none of them escaped. It is not a local but a world-wide phenomenon. In some countries the difficulties are as serious now as they ever have been. In others, nobody yet is certain that the methods which have helped the country out of the depression can be maintained permanently without serious danger, nor can one tell their final result. Personally, I believe that these economic troubles are not due to actual conflicts of policies between states or to the existence of problems that have already taken definitely the form of international difficulties. In such cases each country is clearly conscious that its own program is in opposition to the program of other

countries. The main cause of the trouble has been the effect in any one country of action taken by other countries on points which these other countries considered to be purely internal matters, subject to no foreign intervention and unquestionably within the field of their own sovereignty.

The forms of state intervention in the economic life now are such that action taken by one state is not limited to its own territories. The wave created by a certain national policy is not stopped by political boundaries; it stretches far over these boundaries, perhaps to all of the inhabited world. The economic policy of each state is a matter of concern for all governments and in all countries. This is most true of the policy of the principal states, whose participation in the economic life of the world is of major importance. The idea which each country has developed as to the limits of its sovereignty in such matters must be modified. A new feeling of international responsibility for measures of that nature must be developed.

Remembering that I have been a geographer, and that the people who invited me to this Institute are geographers, I would like here to point out how the subject of state intervention in economic matters is of interest to the geographer. In large measure a pre-war geographer could ignore the state. This was as true in old, settled countries where he tried to describe natural regions as in new countries

where he investigated frontier problems and the expansion of the occupation of the land by man. Colonization, in the early years of the twentieth century, was based on the fact that a world market was being developed for a growing number of products. To create a world market, transportation had to be organized. Capital was necessary both for establishing transport and for equipping the settlers. Colonization therefore had two aspects: expansion of human occupation and expansion of international capital throughout the world. In both aspects there was a world pattern, in which the state had no important influence.

This world, which could be described and understood as a unit, has disappeared during the last generation; the world market is progressively disintegrating into local markets, controlled and created by state action.

In the same manner, just as the geographer has to be well informed about each agricultural and industrial technique through which man feels the influence of natural factors, he now must be familiar with the technique of state intervention in economic matters, for without this he will be unable to draw any understandable picture of the modern world.

The main forms of state intervention in economic life may be grouped under four headings, namely, (1) tariffs (including restrictions to free movement

of men and capital), (2) managed currency, (3) manipulation of credit, and (4) control of internal distribution of revenue.

Long ago, tariffs ceased to be established for the purpose of raising revenue. At present they are primarily intended to favor certain industries by enabling them to get better prices for their products, or they may even be intended to protect a certain national standard of life. The use of the tariff system as a weapon to further certain national industries was first limited to products which the country imported. In this case it was easy, by establishing a tariff, to raise the internal prices and make the local market more favorable for the national producers. Later, however, the tariff system as a form of protection for the national producer has come to be applied also in the case of products of which the country is normally an exporter. This has become a practical form of protection as soon as internal markets have become organized, that is, as soon as national producers have been able to arrange between themselves a curtailment of their offers on their market and thus to maintain on this market artificially high prices. The profits obtained from sales in the country then enable the producers to go on exporting, even at a loss. Indeed, practically all international cartel agreements between producers are based upon the existence of national tariffs.

To many producers of recent times the protection granted by tariffs has appeared insufficient and the tariff itself has been supplemented by quantitative restrictions of trade. This system of physical limitations of trade is now very widely established in Europe, and indications are that international trade will not easily get rid of them.

The result of the establishment of a tariff is, of course, to create a difference of prices between the internal market and the world market, or, in other words, to create a separate national market.

The methods of state intervention which I have grouped under the other three headings may appear less familiar to you. First, let us consider currency. Pre-war currency was an international currency. It was not a currency which was in the control of states or governments, being essentially metallic currency or currency readily exchangeable for metal, the bulk of which was privately owned. The idea of a managed currency—that is, of a currency which is not exchangeable against gold—is based on the desire to maintain between the currency and the commodities for sale a relation that is supposed to be more favorable to the welfare of the country than the relation which existed between commodities and the gold currency. In other words, it is based on the desire to establish a new system of prices.

As the management of the currency under pres-

ent circumstances is a state affair, the necessary result is that any system of prices based on a managed currency is a national system. In other words, a division of the world into local independent markets is the unavoidable consequence of government recourse to a managed currency.

I will have to come back to this question farther on, and I will then try to show how managed currency has worked in practice; but for the time being, I want to limit myself to the principle as stated above. In the same way as tariffs, but to an even greater degree, the managed currency tends to establish different standards of prices within a country and abroad.

Let us come now to the manipulation of credit. Production wants capital. Capital is obtained by the producer generally in the form of credit. It would be a complete mistake to believe that the amount of credit available at one given time to the producers as a whole is a fixed quantity, that is, that credit is something of which there exists a certain limited amount which can be used or not, as there may exist a given amount of gold. As a matter of fact, credit can be expanded and credit can be restricted; the control of the volume of credit at the disposal of the producers is in the hands of man, and in modern states is in the hands of the government.

The government controls the credit in many

ways, either by borrowing itself and using the proceeds of such government loans for further production or by using its powerful influence over the banking machinery which distributes credit. The state's control over the banking machinery has been substantially increased in recent years.

May I refer you to the history of the American banking system since the war. A broad, inorganic group of independent banks, free of any official control and each, as it saw fit and on its own responsibility, using the people's savings for opening credits to producers, in a very few years has been cemented into an organized system called the Federal Reserve System, through which the influence of the state in the distribution of credit is spread over the whole life of the country. When the Federal Reserve Board, for example, increases the proportion of reserve which the American member-banks are obliged to keep in deposit with the Reserve banks, it thereby reduces the banks' possibilities of using their deposits for making credits.

Like the management of the currency, the manipulation of credit is in the hands of each state; and each state, by influencing the measure in which producers at home will be able to use credit and thus have means to expand their production, creates within the country special conditions which are not reflected elsewhere. Thus, we have a third factor making for a progressive disintegration of the

world into economic compartments, in which production and consumption will not develop on parallel lines.

Control by the state of the internal distribution of revenue is another factor that has contributed to the disruption of international trade. Whenever a state raises a duty on any product, it is, in a sense, artificially changing the natural distribution of revenue to the advantage of those who produce that commodity and to the disadvantage of the public which has to pay a higher price for it. Any special protection granted in one country to any one industry, whether the cost is borne by the state directly or by the public, is bound to increase the difficulties of competing industries in other countries not enjoying similar protection. I may mention, for example, the anxiety raised among Swedish match manufacturers by the unfair competition of Russian state-produced matches. Under the present organization of Russian production and foreign trade, Russian matches can be sold in foreign markets at a loss. Such action tends to upset the industry in Sweden and other producing countries.

But this question goes deeper. Let us pursue it farther. In several countries we have seen attempts to provide for a better and fairer distribution of the national income among classes of the population. Of course, the world outside does not care very

much whether labor or capital will receive a greater or a smaller part of the proceeds of the work which is being done in any given country. But the outside world is affected by the means taken to bring about the redistribution. When public opinion or pressure from certain classes persuades a government to alter the traditional rulings governing the distribution of national income, the government finds it extremely difficult to ascertain what this income is that should be redistributed.

Profit, as distinguished from capital, is a thing which may be clear in the profit and loss accounts of a company, especially if looked at superficially. But to make a distinction between revenue and capital as regards a country as a whole is a most obscure and difficult problem. The consequence is that, whenever it is felt desirable to increase a group's participation in the national income, what really is done is to allocate to them a portion of the capital wealth of the country. Governments have done this to a very large extent.

In plain terms, they spend more than their revenue, go into debt, and mortgage the future. Part of the wealth which is going to be created only in the future years is distributed to the public as something on which to live immediately, something to spend as if it were real revenue. Consumption is therefore increased by the additional means put at its disposal; production is also correspondingly in-

creased, to satisfy a growing consumption; this, as artificial expansion of credit, is a common form of inflation. The activity created by it is a local activity, limited to the country where inflation has been undertaken; it does not expand to other countries, and once again the local conditions of the state market cease to be in line with world conditions.

The various forms of state intervention described above react naturally upon each other; each of them calls for the use of some other one, and also leads other countries to protective measures of the same nature. Tariffs and trade restrictions are established as a protection against countries with depreciated currencies and low costs of production. These countries, being unable to break such barriers, will lose their foreign trade and be short of foreign exchange. They may then, with a view to reducing their imports, undertake the production of substitutes. Production of substitutes is expensive and unsuitable for private financing; recourse must therefore be had to state financing, which, in turn, will again react upon the exchange value of the currency. And so on.

From one form of state intervention to the other, there is a continuous chain; and each time any one form is used, a further progress is made toward the disintegration of the world into independent state markets.

Symptoms of disintegration can be noted everywhere. Industries which seemed to be firmly rooted on natural features disappear because they have lost their markets abroad and the internal market cannot support them. Reciprocally, industries start thriving in places where natural factors seemed unfavorable because they have been granted a monopoly on their national market. Industries whose very existence is an economic absurdity are created for the production of substitutes. Each government, willingly or reluctantly, looks forward to a situation where its country will be more and more self-sufficient and self-supporting, and either chooses to convert its economic life into autarchy or is condemned to it. The progress of autarchy is just another expression of the disintegration of the world into state markets. This progress is unquestionable, as is clearly proved by the fact that curves representing world trade do not keep pace with curves representing world production. There is no doubt that this autarchy represents general misery. Misery resulting from autarchy is naturally felt less by states which have large territories and more diversified resources, such as the British Empire or the United States. The sufferings will be greater for small states with a smaller range of productions, and I believe we would have noted during the last few years an increasing depression of the small states if the difficulties imposed on them by the

disintegration of the world market had not been partly compensated by the fact that they lack the political responsibilities of larger countries and do not have to assume equivalent military charges.

II. PROGRESSIVE DISINTEGRATION OF WORLD ECONOMIC UNITY SINCE THE WORLD WAR

In my first lecture, I tried to explain the methods through which state intervention has worked to disintegrate the world's market into independent state markets—in other words, to create national systems of prices differing markedly from the world price system. I shall now try to present the matter somewhat more in detail by briefly reviewing the history of the world's economic life since the war. It is a difficult task, and the ground is a little controversial.

Let us first try to get rid of the idea that the economic difficulties encountered by countries the world over and the slowness of recovery may have been due to the terms of the peace treaties. I believe that this idea is wrong. We all agree the peace treaties were wrong. We might find it, however, more difficult to agree if we had to state on which points they were wrong. Anyhow, I consider that mistakes made in the peace treaties have not been the main reasons which have prevented an economic recovery of the world. These treaties were based not on economic but on political considera-

tions. Economists had a very small part in their drafting, and the economic problem largely was ignored.

Anxiety about the economic danger involved in the peace treaties appeared first, I believe, in England. It centered on three main points. The first was the excessive weight of reparations. It is quite true that Germany's liabilities under the reparations clauses were such as to make their execution completely impossible. They were beyond physical possibilities of transferring wealth from one country to another; and unquestionably the enormous amount fixed for German reparations was one of the main reasons which led to the first experience in currency devaluation, of which the German mark was the patient.

The English economist, Keynes, criticized the treaties most strongly on this point. He was perfectly right, although I think he perhaps was right too early, which sometimes is worse than being wrong. The reparations feature in the treaty did have one very good consequence. As you know, it was executed only in small part; but the belief that reparations would be paid by Germany was the real reason which permitted France to carry out the reconstruction of the war-devastated areas. When France, alone among the countries after the World War, found herself confronted with the reconstruction of her devastated provinces and thus

with only half of her financial task accomplished, a large amount of money was necessary. This money was raised by French public loans; and the subscription of these loans would probably have been impossible had there not been a general belief on the part of the French public that, after all, Germany would pay. Happily, Mr. Keynes's propaganda about the impossibility of reparations payments had not yet influenced the French public; and when it became evident that payments from Germany would be impossible, the loans had already been subscribed and the devastated areas had been rebuilt. Anyhow, reparations payments have now been interrupted for a number of years, and that obstacle to economic recovery has been eliminated.

The second point on which anxiety was felt about the economic consequences of the peace treaties was the following: Would it be possible to integrate in a national economic system territories which formerly had been included in another state and the appurtenances of which had been changed? Take, for example, Polish Silesia, which was perhaps the most critical case. The peace treaty stipulated that a plebiscite should be held and that the territory should be apportioned according to the plebiscite. The plebiscite was held; and in accordance with the distribution of German and Polish votes, Upper Silesia was divided between Germany

and Poland. The new boundary went right across one of the most dense industrial sections which existed in the world. Could the establishment of a new boundary of that kind be effected without too much waste of wealth and possibilities? Special precautions were taken. A convention was signed by Poland and Germany providing that, in spite of the existence of the new boundary, conditions prevailing before the partition would be maintained over a period of years and guaranteeing that the various industries would not be cut off from their sources of supply of raw materials or of labor, or from their markets. I do not pretend that there have been no difficulties; but, on the whole, the convention helping, they have been overcome and the situation has progressively corrected itself. If you travel through Silesia, you will not now feel that the pre-war industrial activity has been very greatly curtailed.

The third problem was: Would it be possible to develop into a healthy, stable economic system the new states created by the treaties of peace? The classical example is Austria. The future of Austria appeared immediately as a matter of serious concern. Among the reasons which led people to doubt whether the new state of Austria could live was the feeling that Austria, with a third of its population concentrated in the city of Vienna, was top-heavy and could not, within the limits of its reduced ter-

ritory, afford the luxury of a capital town of such importance. This was, I believe, a complete mistake based on a false comprehension of the economic value of larger towns in the modern world. Experience has shown not only that the existence of Vienna did not handicap the future of Austria but that it was its main asset. The Austrian situation, however, was difficult from the start, and there was in the first years (1919 and 1920) a complete breakdown. The Austrian trouble gave opportunity for one of the few instances of real effective international collaboration. A loan, guaranteed by ten or twelve other states, was issued in favor of Austria; and from the proceeds of this loan the Austrian currency was reconstructed and Austria's life restarted. The help extended by other countries was accompanied by a certain amount of international control. In other words, the League of Nations, at the same time that it arranged for the issue of the loan, sent to Vienna a small staff which, for a time, supervised the finances of Austria and watched the financial reconstruction. The work had a considerable measure of success.

Difficulties, however, reappeared later; and after a few years people (especially in England) again wondered whether the idea of permanently maintaining Austria as an independent state was not doomed to failure.

I remember having had long discussions on this

point with Mr. Layton, the director of the London *Economist,* who had been asked to make a survey of the problem and who was studying with much anxiety the figures of the external balance of payments of the Austrian state. I did not altogether share his misgivings. Somehow, I believe, a balance of payments always corrects itself, although not always, of course, by desirable methods. Sometimes it may be corrected by one country's not paying what it owes or by the people's having to undergo unpleasant privations. Economically a state can always be maintained when the people really want to maintain it; they will then accept the sacrifices which are necessary for equilibrating the balance of payments. In other words, as you say in English, "Where there is a will, there is a way"; and the trouble in Austria was that there was no will. However, things have progressively improved. The Austrian national spirit has grown, largely as a reaction against political circumstances in neighboring countries; and the amount of economic sacrifices which the population has had to accept for the maintenance of its independence has not been excessive.

Austria does not give at present any impression of misery. There is a certain volume of unemployment, but public finances are all right and savings are increasing. Vienna is a living and colorfully gay town, and Austria has successfully weathered the

depression. I wonder whether it was not affected by it less than many other countries.

I believe, therefore, I can express the conclusion that whatever serious economic mistakes were included in the peace treaties it is not the existence of these mistakes which explains the slow economic recovery of the world. In reality these mistakes have been a secondary factor in our troubles. It is not the peace treaties which made the trouble; it is the war.

In order to understand this, let me summarize from an economic point of view the main features of the situation after the war.

First, each of the states which had been at war had made enormous expenditures, infinitely larger than they themselves had believed to be possible. In other words, all of them, to different degrees, had started to live on their future income. The state debt had grown enormously, not only on account of war charges but on account of reconstruction charges.

Second, during the war all countries had given to their governments powers to control their economic life to a degree which had been unknown before. The governments had therefore had the opportunity to make wide experimentations in the control of economic life. In countries where the general life of the country had been touched relatively little, it was easy to eliminate that form of

state intervention after the war. It was much less so in others.

Third, pre-war channels of trade had been modified. In the countries at war, certain industries had been stopped, others had been developed. Exports had not been maintained, and industries in other countries had been started to satisfy the unsatisfied demand. The balance of payments between countries had been changed enormously. Some countries which were used to being debtors had become creditors. There were no means of calculating exactly what the position was from that angle. The world had therefore to find its way in the dark.

Fourth, normal methods, through which the constant adaptation of production to consumption had been effected, had been largely abandoned; and this involved the danger of wide fluctuations in prices. In pre-war periods fluctuations of prices were relatively small. A reduction of 5 or 10 per cent in world prices had meant a very serious crisis. Since the war, fluctuation of prices has been infinitely larger, prices in gold jumping from 50 to 100 and back to 50. Small fluctuations of prices can be corrected by certain means which the liberal school of economists has studied and the action of which is purely automatic and independent of the state. But when the fluctuations reached figures such as indicated above, men had to look for some other

means of correcting the resulting situation than the ones known to classical political economy.

Fifth, as regards currency, the war had also deeply changed the situation. Pre-war currencies in all main countries had been on a sound gold basis and had enjoyed a stable relation to one another. The war introduced in the currency structure two factors of disorganization and decay, the seriousness of which was not realized fully at once. One was the heavy burden of state debt, which in most cases had taken the form of a debt to the central bank and was represented by outstanding currency. The other was the deep disturbances in the international balance of payments. Any system of currency must permit the settlement of differences in the international balance of payments, and the strain on the currencies is infinitely greater if the differences to be settled are large.

I should add that a striking feature of the situation was that the seriousness of the economic difficulties was not understood generally by the people. Nobody realized fully how much wealth had been destroyed and how far states had mortgaged their future, or that the burden of debt which they had assumed was out of proportion with their resources. People had been simple enough to consider as individual capital the state bonds purchased by them, although such bonds represented no more than the community's misery and the share contributed by

each subscriber to expenses which had saved the political life of the country but had served no constructive economic purpose.

I will now undertake to review the developments which took place in the main countries—Germany, France, Great Britain, and the United States. Let us take first the German case. The German state, exhausted by the war and finding itself faced by the reparations liability, was the first to experiment with devaluation and to give an example which many states were to follow. I do not mean that the depreciation of the mark was a systematic policy, but little was done to prevent it. As this is the first time devaluation has come into our historic sketch, I must summarize and explain its technical consequences, all of which, as you will see, have both an internal and an international aspect. The first effect of devaluation is the reduction of outstanding debts, including the state's debts. The reduction of the state's debts means less charges for the state, therefore less taxes. The reduction of private debts means smaller capital charges for the various industries. Labor charges are also reduced, because salaries are not raised as quickly as the currency depreciates. Production costs, therefore, are lowered, and the country finds itself in a better competing position than its rivals in international trade.

In its efforts to extend its markets abroad, the country which has, by devaluation, reduced its pro-

duction costs cuts the prices on all markets; and devaluation in one country makes for lower prices the world over.

As a matter of fact, these considerations do not apply strictly to the first German devaluation; it was so sudden that it had not time to affect the world generally. It resulted, in effect, not in the maintenance in Germany of a depreciated currency but in the abandonment of the old currency and the establishment of a new one; and Germany started working again with a brand-new mark equal to the old one, the pre-war one.

However, after a short time exchange difficulties reappeared. In other words, Germany found it difficult to obtain the amount of foreign exchange which she required. A solution would have been to devaluate again, but this was excluded by the very painful remembrances which the first depreciation had left. Another solution had to be found, and the control of exchanges was established. The buying or selling of foreign exchange was prohibited without authority from the state. Transactions in foreign exchange occur mostly when importers buy foreign exchange in order to pay for goods purchased abroad or when exporters sell foreign exchange obtained in payment of goods sold abroad.

The system of state control of foreign-exchange transactions results in maintaining a high artificial rate between the local currency and other curren-

cies, which rate is applied to transactions authorized by the state, while on the internal market prices have a tendency to rise. In other words, the control of exchange is nothing else than a method for hiding a currency depreciation, and prevents exporters from gaining any advantage from that depreciation.

Germany had, therefore, in order not to lessen further her scant supply of foreign exchange, to devise means of protecting her exporters. This she did in many ways, by granting them premiums out of the proceeds of taxes levied on all producers, by providing them with credits, by (in certain cases) allowing foreigners to purchase at a discount cheap marks reserved in principle for the internal market (called "blocked marks"), or by having recourse to the remarkable device of the clearings. Under the clearing system a foreigner who sells goods to Germany is not paid in foreign exchange; instead, he receives payment in blocked marks, which can be used only to settle orders placed in Germany. The result is that the foreign country chooses one of two alternatives, either to buy from Germany as much as it has sold to Germany or to leave its balances unemployed in Germany. The latter amounts to granting Germany a credit. All the foregoing devices are methods for furthering German exports, based on the control of exchange. Many states, including the United States, have

come to the conclusion that the manner in which the German state handled this exchange question in reality was creating a system by which German products were dumped all over the world, and that affected countries were entitled to protect their national markets against such dumping. Germany's two contributions to the economic restoration of the world, therefore, have been the experience of currency depreciation and of exchange control.

We now come to the French case. The French post-war situation is characterized by the enormous burden of the state debt. No country had so heavy a debt in relation to its wealth and population. Public opinion progressively realized the difficult position of the state's finances; and the situation resulted in the state's having to pay high rates of interest on its debt, which not only increased the weight of the state debt but handicapped production, since industry cannot expect to borrow at cheaper rates than the state. The people, suspecting that the state might have to issue new unsecured currency, endeavored to exchange their francs against foreign exchange. Export of capital made depreciation unavoidable, and the franc fell to 50 to the dollar. When a strong government came to power in 1926, the franc recovered to 25 to the dollar and was stopped and stabilized at that level, where it was maintained until last year. The rate chosen for stabilizing the franc was too low, from the

international standpoint; in other words, at such rates French prices expressed in gold were distinctly below American and British prices, equally expressed in gold. This had not been done purposely. I remember very well that British friends at that time told me that the stabilization of the franc represented a danger for the world, and that we were unforgivable trouble-makers.

They were perfectly right; but neither I, nor anybody in France, understood what they meant. These are cases where your eyes will never open till you have found yourself on the other side of the fence. We simply could not understand the danger involved for the other countries in what we regarded as a purely internal measure taken in response to internal difficulties. The result of stabilizing the franc at an excessively low rate was, however, that the balance of trade became very favorable to France; and the Bank of France accumulated enormous balances abroad, especially in London and in the United States. Having been at that time associated with an American bank, I know something about that. The Bank of France had over one billion dollars in New York and other parts of the United States, and you can imagine what it meant to be on friendly terms with the Bank of France. We used to go there asking for funds to be deposited with our firms, and would meet in the same waiting-room a crowd of Ameri-

can bankers who had come for the same reason. When we obtained these deposits, they were used to extend credit in America. Later, when the Bank of France wanted its money, or decided to convert it into gold, these credits had to be curtailed, and the price structure which they had helped to create was endangered. As you see, I am always trying to draw attention to cases where action taken by one country has affected the situation in other parts of the world.

Let us take now the British case. London, after the war, found itself with a currency which had depreciated about 20 per cent below its pre-war value. But London had a great desire to remain the financial center of the world. That desire was especially strong in "City" circles and among the officials of the treasury and the Bank of England connected closely with such circles. To achieve this desired result, they thought it necessary to have a sound currency at a fixed rate, a rate which could only be the pre-war gold rate. In spite of all difficulties, they re-established this gold rate and the pound sterling resumed its pre-war standard of value. This started a very difficult period for England, which lasted from 1921 to 1929. I remember very well how depressed my British friends were during that period. You could not cross the Channel at that time without finding people who were seriously talking of the decay of the British state

and of how black the future seemed to be for their children. It was a period of very heavy taxes, low employment, unoccupied industries, and external trade shrinking progressively. The last stroke to the situation was when, after having faced for several years the unfair competition from France with her excessively depreciated currency, England found herself confronted by the demands of the Bank of France to repay the balances she had maintained in London, and to pay these balances in gold.

The strain was too great for London, and that was the reason for the 1931 crisis, of the resignation of the Labor government, and of the formation of the National government, whose first two measures were to let the pound sterling depreciate and to establish tariffs, thus eliminating the last unprotected market where prices corresponded to world prices. The fact that the depreciation of the pound sterling was maintained within narrow limits is due to three reasons, namely, the enormity and variety of the British Empire's resources; the repudiation of gold by a number of countries at the time Great Britain left the gold standard, these countries accepting the pound sterling as a standard of value for their own currency; and the maintenance of an equilibrated budget, owing to British statesmanship and British public spirit, so that the state did

not have to borrow and the trend of the currency was controlled by economic and not by budgetary conditions. These three factors limited the fall of the pound sterling, but it is quite certain that the downward trend of the pound sterling from 1931 to 1934 has been a factor in the history of the world which cannot be overlooked. It has exerted a continuing pressure over world gold prices. It has postponed any possibility of recovery from the depression.

The economic troubles in France and their political consequences and the dissatisfaction and uncertainties of French public opinion are explained very largely by the British currency situation. Again an example of the dramatic interference of one country's policy in the life of other countries.

About the United States, I will say only a few words. The United States, after the war, became a creditor country, with a favorable balance of payments, bound to import gold and to have an expensive currency. Imports of gold facilitated a credit expansion; and the United States passed through a long period of rising prices, which lasted from 1921 until 1929, a period characterized not only by high prices but by increasing capital values, by wide speculation, and by corresponding illusions as to the national income and the capacity for consumption.

This period of rising prices was terminated in 1929 by the breakdown of the stock market, which started the depression. The depression appeared at first to be nothing more than a temporary disequilibrium between production and consumption, and under more normal pre-war circumstances it could probably have been solved after a period by the normal processes of price reduction and of writing off losses. While this automatic process of recovery was going on, however, what happened? First, the repatriation of the French balances, which inflicted a serious strain on American banks. Then, the abandonment of the gold standard by Great Britain, world prices going downward with the pound sterling. Meanwhile, Germany was trying to reduce artificially its export prices and to undersell its competitors. How, under such circumstances, could economic recovery be expected in the United States? Prices went down so low that the banks found themselves in trouble. When the banking structure was shaken, it became clear that something had to be done and that the situation could not be left to take care of itself. Bank deposits at present can hardly be distinguished from currency; and when bank deposits are in danger, the public becomes afraid of losing not only its capital already invested but its liquid savings. The bank crisis was therefore the signal for governmental action to remedy the depression.

III. WHAT CAN BE DONE TO RESTORE THE WORLD'S ECONOMIC UNITY?

I have endeavored to show that the disintegration of the world's economic unity, the tendency toward autarchy, and the troubles which have affected all countries in recent years, victors as well as vanquished, largely result from the lack of coordination between the economic policies of the various states and from the fact that each of the states has handled, on a national basis, problems which are international. This situation, which, of course, has been imperfectly understood by public opinion in each country, has created not only economic but psychological issues of great seriousness. Of these, four deserve special mention.

A country affected by a depression is bound to look for someone to whom it may attach the responsibility for its sufferings. Man is so made that he likes to attribute his successes to his own genius and his failures to the mischievous action of others. The depression thus spreads over the world a general international bad feeling and distrust. This distrust is justified, in so far as it is true that other countries' policies have in effect been harmful. It is unjustified, however, when public opinion in one country starts fancying that the other country intended to be harmful.

Economic depression not only creates in each country a favorable ground for nationalistic excita-

tion; it also leads each country, in its search for remedies, to include in its national program demands which are bound to create international conflicts, such as demands for new territories.

Particular methods adopted by one country in its efforts to work itself out of the depression, are, whenever they can claim a measure of apparent success, blindly imitated in other countries where conditions are entirely different, and where, therefore, such methods can lead only to further disorganization. For example, Rooseveltian methods, based on liberal recourse to state financing, are being applied in France, where the state credit is exhausted.

Forms of state intervention in the economic life, originally planned as an effort of general reconstruction and aiming at a re-establishment of the nation's economic equilibrium, degenerate into party weapons, used for the benefit of one class of the nation against another class. Currency devaluation, for example, is easily distorted into a systematic method of expropriation of capital; class agitation thrives when a government, confronted by depression, assumes new powers of control over the economic life.

The tendency toward autarchy in each country, as revealed by the analysis which we have attempted, is explained by two distinct orders of causes. The progress toward autarchy first results

from a national administration's desire to maintain the public welfare of the community, to protect its standard of life, to provide employment. Failing any help from abroad, the administration is bound to seize such remedies as are available to it, namely, national measures. The appearance, among national administrations, of a growing feeling of responsibility for the welfare of the public, is an interesting aspect of modern history. The day when officials of central banks, for example, instead of limiting their duties to the maintenance of the value of currencies in gold and foreign exchange as they did after the World War, began to feel that they were responsible for maintaining stable prices marked a turn in history. Mankind should, I believe, always consider with some awe and anxiety the appearance among its rulers of such new feelings of responsibility, leading to experiences which are not always successful and pleasant.

Progress toward autarchy also is based on the nation's desire for power. For a long time men have understood that wealth is a factor of political and military power, but never have men realized as clearly as they do today that all economic resources of a country, all its productive forces, will have to be appealed to in case of war, and are, in peace time, a measure of its international influence. A country which could manage to be economically self-sufficient and self-supporting would strengthen

its political independence and its possibilities of domination over other countries.

It is not easy, in actual fact, to separate the two motives and to say in each specific case whether economic reconstruction or political ambition is the dominating factor in the growth of autarchic conditions. The American delegation to the International Studies Conference has given much attention to this question; and its conclusion seems to be that, in present circumstances, desire for power is probably the main driving force of efforts toward autarchy. One thing is certain. In modern times, no war is ever undertaken in any country as an aggressive war; war is always presented to the public as a defensive war and is probably sincerely believed by governments to be a defensive war. In the same way, autarchic measures involving a disintegration of the world's economic unity, such as increases in tariffs, restrictions to trade, establishment of new industries for the production of substitutes, currency devaluations, and the like, will never be presented as aggressive action. Instead, they will be offered as defensive countermeasures against unjustified pressure from abroad and as an effort toward both economic and political security. And, as things are, there is no international authority to decide who is the aggressor and who is the defender.

If autarchy is, in fact, a preparation for war, and

if we want to fight autarchy, the ineluctable consequence is that war should be made impossible. I quote the following sentence from a report made by the American Committee of the Tenth International Studies Conference: "Just as disarmament is a hopeless ideal save through the prior or concurrent achievement of collective security against aggression, so raw material conflicts between nations are hopelessly insoluble in a world where each country must depend on its own strength to meet the menace of war."[1] I am 100 per cent persuaded that the most effective weapon against the progress of autarchic conditions and toward a world economic reconstruction would be the organization of collective political security and the acceptance by all countries of the responsibility of finding out who is the aggressor and of helping to repress aggression.

I know, however, that such international organization may be only a distant goal, and that for the immediate future, and for all purposes of practical action, we must unquestionably be more modest in our expectations. If countries are reluctant to accept actual responsibilities in repressing aggression, I think at least they might be awakened to a realization of the world dangers involved in certain

[1] Eugene Staley, *Raw Materials in Peace and War* (United States Memorandum No. 1, Report to the Tenth International Studies Conference, Paris, June 28—July 3, 1937).

forms of neutrality. A conception of neutrality which means the interruption of trade with all nations at war probably results in favoring the aggressor, as this aggressor is likely to have accumulated in advance the necessary supplies and to start the war only when it feels that it is satisfactorily equipped. In addition, that form of neutrality will deter other countries, which otherwise might be prepared to do so, from participating in any international collective security organization, since they will know in advance that by taking a share in a repression war they will abandon their neutral position and will be punished by losing their international trade. Adopting that kind of neutrality policy is not only staying away from international obligations; it is preventing other countries from accepting such obligations. This amounts to making the world safe for aggression.[2] I would like to add that it also dooms the world to autarchy. What country will not, as far as circumstances permit, make itself self-supporting and independent of world trade if, when attacked, it may expect an immediate interruption of its trade with the world?

If a country defending itself against aggression is not to be supported—even economically—by other countries, is it not at least a minimum commonsense requirement that we should not advertise this fact in advance and go on insisting every day that

[2] *Ibid.*

in case of war each country will have to take care of itself, thus contributing in peacetime to the economic disorganization of the world?

If you feel that the considerations I have stated above are too general and impractical in their character, and that a program of that nature is bound to meet either justified objections or insuperable resistance, let us look at the problem from another angle and thereby come back more specifically to the forms of state intervention in economic life as described in my previous lectures. I may say at the start that I have little personal sympathy for state intervention of that kind. I believe we could do without it, or at least with a smaller amount of it. I believe also that individual efforts would often go a long way toward solving an economic crisis, that periods of growth of administrative functions are not necessarily periods of happiness for the individual and sometimes introduce an undesirable crop of abuses, corruption, and mistakes. I believe it would not be a bad thing if some of the state's activities could be discontinued or reduced. How far this can be achieved in each country I am not prepared to say. Governments do not like to have their activities curtailed. It is their pleasure, and, as they see it, their duty, to be active. The French government a few weeks ago had to exercise the greatest moral control over itself when it decided to slow down the execution of its program and to

call for what it defined as "a pause." It made clear, however, that this pause would be only temporary and that work would be resumed as soon as circumstances permitted, thus showing that in its eyes, and, as it felt, in the eyes of the public, a decent government should be active and, whenever it interrupts its actions, should feel ashamed and excuse itself. I am afraid it will not be an easy task for us to get rid of state action; and, after all, if the majority of men want the economic part of their lives to be governed by state action, I suppose I should not object on the ground of personal preferences.

A point on which I think everybody will agree is that experience has proved that state action in the various countries, if it is not to destroy the world's unity and prosperity, should be co-ordinated internationally. International problems should be handled internationally. For purposes of simplicity, let us call "socialism" the control by the state of economic life, and "socialistic tendency" the tendency toward increasing state control of, and state intervention in, the economic life. I do not wish to raise any theoretical objections against socialism in itself; what I want to make clear is that, if socialism is to solve world problems, it must be developed into an international method. Under present circumstances, any socialism is necessarily a national socialism. As it has been experimented with in recent years, its field of application is the state.

Modern states are national states, and there is no superstate.

If international economic disorder is to be avoided, forms of international co-operation must be developed, on the very points on which government action has become general—tariffs, credit and currency problems, and the like.

How is this co-operation to be thought of? It may take either the form of negotiations between powers or the form of progressive organization of services with international administrative functions. In both cases it will mean a reduction of the sovereign rights of each country, this being no less true in the case of negotiations resulting in agreements of a more or less durable nature than in the case of the building-up in certain fields of organizations of international administration. To quote again the American committee, "Not so much the sacrifice of trading interests, as the sacrifice of prejudice against systematic world co-operation, is the price which the United States must pay for peace,"[3] and, I will add, for the world's economic reconstruction.

The term "international administration" may raise unjustified fears. As a matter of fact, germs of international administration exist already in many fields. Many international agreements provide for some form of international administration.

[3] *Ibid.*

Recourse has been had to international boards with administrative functions to put into effect the provisions of sanitary conventions, to carry out the provisions of conventions made to minimize the economic disturbances resulting from transfers of territories, and to settle refugees into new areas. I cannot think of any disarmament convention which would not provide for some form of international administration, as control of the faithful execution of the convention will always be indispensable; and this control can only be effected internationally. I cannot think of any league of nations which at the same time would not be a debating-center for the discussion of interests between countries under certain agreed rules of procedure, and a center for international administration in certain fields. International administration has especially a wide-open field as regards new problems which, on account of their novelty, have not yet been seized upon by national governments. A great opportunity may have been missed as regards air transportation, but others will occur.

I feel strongly that the simple method of negotiations will not be sufficient. It is open to the objection that the circumstances change too rapidly, especially economic circumstances. Take, for example, the problem of raw materials. In a few years the very fundamentals of this problem have changed entirely; from a problem of obtaining a

supply of raw materials the world passes abruptly to a problem of finding markets for them.

Let us come to definite cases, first considering what international action might be taken in the field of commercial policy. A reduction of tariffs, and even an abolition of trade restrictions, is a program which in many countries will be given lip-service by statesmen; and we will find it heartily approved and bowed to in the very decisions by which tariffs are increased or trade restrictions multiplied. Let us, however, fancy for a moment that one government is honest about it and sincerely desires to progressively re-establish freedom of trade over its boundaries. How will it proceed? It will start commercial negotiations with other individual governments and agree, on a reciprocity basis, to make specific concessions on the existing tariffs. As it is usually linked with the majority of states by commercial treaties which include the most-favored-nation clause, any concession made to any given country will be automatically extended to the benefit of certain other countries. This raises a serious problem, as a state may be prepared to grant certain advantages to one country which it would not like to extend to another one. In practice, the result is that it makes no concessions to anybody because it does not want to make them to everybody. The United States, in order to solve that difficulty, has given to the presi-

dent the right of not extending to certain countries the benefit of tariff reductions resulting from reciprocal treaty agreements, although they may be, by treaty, entitled to most-favored-nation treatment, provided those countries apply a discriminative treatment to American trade. These powers have been used in some cases, although they are not easy to defend from the point of view of international law. However, they apply only to a small number of cases, and it would be dangerous to make use of such powers frequently.

Among reasons which have justified the maintenance of high tariff walls, one of the main ones has been the fact that excessive protection was granted by certain countries to their producers through general government credits, currency depreciation, and the like, thus placing these producers in a position of unfair competitive advantage. In France, for example, quantitative restrictions of imports, as distinct from tariffs, are based on the necessity of protecting French industry against the competition of countries with a systematically depreciated currency.

Would it be impossible to reach an international agreement as to what practices will be considered unfair for countries who wish to remain in the world commercial community? Only such countries as would live up to the accepted standard would be entitled to the benefit of the most-fa-

vored-nation clause. In other words, states would agree to a common interpretation of the most-favored-nation clause. The interpretation would necessarily limit the independence of the states as regards the management of their currency. As the application of the convention would be a delicate one, with frequent discussions about how far specific cases of state action might be accepted, an international office would have to watch over it.

Because attention is focused on it at present, we may be allowed to discuss somewhat more extensively what might be done in currency matters, always from the international standpoint. A first step toward international co-operation on currency matters was effected last fall through the common declaration of policy of the British, French, and United States governments. As you know, however, this declaration did not go very far. Essentially it consisted of an agreement by Great Britain and the United States that they would not resent, or consider as an unfriendly measure, a devaluation of the French franc below the then prevailing parity. They would, therefore, not retaliate either by action against French trade or by starting devaluation of their currencies.

For reasons unnecessary to explain here, the tripartite agreement did not stop international currency troubles. The devaluation of the dollar in 1933 had had the consequences which might have

been expected, namely, it reduced American commodity prices expressed in gold, as distinct from such prices expressed in new devalued dollars. It therefore strengthened the dollar's position on the foreign-exchange market and increased, if anything, the flow of gold toward this country. This could have been stopped, and the equilibrium of the exchange market could have been re-established, if prices of commodities in the United States had gone up substantially. The United States administration, on its part, was anxious to see prices rise. The method followed, which has been quite successful in other countries, was to create willingly a state budget deficit and to spend more than it levied in the form of public taxes. By spending more than its income, it increased consumption, raising the demand for commodities and pushing prices upward.

The rise of prices, however, was moderate, chiefly because of the fact that the United States government had an excellent credit and had no trouble in borrowing at low interest rates the money wanted to cover the budget deficit. Currency expansion resulting from state deficit was compensated by currency contraction resulting from state borrowing.

As a matter of fact, although favoring a moderate rise of commodity prices expressed in dollars, the United States authorities had kept too vivid a

memory of the dangers involved in excessively high prices and in speculation not to watch carefully their market and to curb speculation if it appeared again. When gold imports continued and their volume increased, they took the necessary measures to prevent such imports from being reflected in a further rise in prices. This is what is called the "sterilization of gold."

The plan works as follows: When the United States equalization fund buys gold, it does so by issuing gold dollar notes and delivering them to the seller. These dollar notes circulate, eventually finding their way to a bank in the form of a deposit. The bank, in its turn, lends them for productive purposes, the import of gold therefore resulting in a currency and credit expansion, which is bound to raise prices. In order to curb that expansion, the government issues loans, sells its bonds to the public, and collects with one hand the dollar notes which it is issuing with the other. This is a costly operation, as the government has no use for the gold it has acquired, and must pay interest on its bonds. From the purely American point of view, the problem of the sterilization of gold is simply whether it suits the United States government to pay that price for the purpose of maintaining relatively low prices.

From the international point of view, it is an entirely different one. If American prices go up,

the disequilibrium of the exchange market tends to be eliminated and gold remittances stopped. There is little chance of stopping them as long as the sterilization of gold goes on. Gold sterilization, in the manner it is practiced now, represents a serious international danger. Two alternative solutions would be satisfactory. Either the government ceases sterilizing gold and leaves currency and credit to expand freely, and American prices to rise correspondingly, or the government ceases to buy gold and allows the gold value—or, what is the same thing, the exchange value—of the dollar to go up. American prices expressed in dollars would then not be raised, but their ratio to other prices expressed in other currencies would increase; and in both cases the international difficulty would have been solved.

If the solutions described above seem to be too dangerous, and if the United States cannot be reconciled either to the idea of a prompt increase in American prices in present dollars or of an increase in the gold value of the dollar, another way out might be thought of on still more international lines—for example, through the lending to foreign countries by the United States of the gold which it is now buying. This is not the place to work out the details of this program, but it will be readily understood that these credits would enable the countries to which they would be granted to under-

take expenditures and works and would increase the demand for commodities all over the world. Instead of resulting in a local increase of prices in the United States, these credits would work toward a general rise of prices the world over, and they would be an important contribution toward economic reconstruction. I am inclined to think adequate security for these loans could be found. Other countries would have to agree, should circumstances change and the balance of payment be reversed and become favorable to them, that they would accept in settlement the bonds representing these international credits in place of gold. Some such plan is certainly in the mind of the Belgian premier, and it cannot be regarded as pure fancy, although whether it may be considered as within practical possibilities is uncertain. Needless to say, such a plan would involve both international agreements and the working-up of some international administrative machinery.

I am in no way surprised that a program of that kind should not appeal at the start to an American; nor am I blind to the objections which he might raise. He would be justified in recalling the part which the Bank of France had in precipitating the American crisis by repatriating its balances in the United States. He also would be justified in observing that the present imports of gold are due less to a really favorable balance of payments than

to political anxieties in Europe, resulting both from international and from local political uncertainties; that the tide might be turned by circumstances over which the United States has no control; and that America is fully entitled to handle the problem from its own point of view, without consideration of other countries' interests.

I am not prepared to discuss the merits of the case. This point, however, should be recognized, namely, that a useful international co-operation can be established only between countries with more or less common economic and moral standards. No permanent relation can be maintained between several currencies if the interested countries have widely separated views as to the principles of their economic organization. All of the countries concerned must be prepared to permit prices on their own market to fluctuate in conformity with world prices, and not to disturb the normal relations between them by an immoderate use of government credit or of currency expansion. This basis for co-operation, I believe, exists among the Western démocracies. We must hope that it will be maintained; or, rather, we must work for maintaining it. Thus democracies will be able to co-operate effectively on an international plan and to prevent a further disintegration of the world's economic unity.

I have led you along a long and sinuous road.

Some of you may feel that my conclusion is unduly optimistic, that it does not take account sufficiently of the general indifference and ignorance which still prevail in all countries about the situation in other countries, that I do not realize enough that the great majority of people are not world-minded, and that this feeling of international responsibility which I insist should be developed is pure utopia.

Let me therefore terminate this discussion by mentioning the following fact. In October, 1936, the French franc was devalued and its ratio to the dollar was reduced from 15 to 22. Now, eight years before, a first devaluation of the franc had taken place and all French people had lost four-fifths of their capital. You may imagine therefore how unpopular the idea of a further devaluation was—so unpopular that all political parties, at the 1936 elections, had committed themselves solemnly never to accept it. When circumstances proved to be stronger than any political commitment and devaluation became technically unavoidable, the government had to bow before the necessity. Its decision was taken with the greatest anxiety and with the expectation of a violent reaction of public opinion. The dreaded reaction did not take place, and the decision was easily accepted. The reason was that Mr. Blum was clever and lucky enough to present the devaluation not as a national but as an international measure. Devaluation was called

alignement. In other words, attention was called to the fact that, in agreement with the United States and Great Britain, a fixed relation was established between the three currencies. Mr. Blum made the most of this very limited success in international co-operation. And the response of the French public opinion is, I believe, a striking proof of the fact that it is awakening to the necessity of international action and to the further fact that national remedies alone will not re-establish the national situation.

A NATIONAL PLAN AND POLICY FOR THE CONTROL AND USE OF WATER RESOURCES

By HARLAN H. BARROWS

A NATIONAL PLAN AND POLICY FOR THE CONTROL AND USE OF WATER RESOURCES[1]

NEED FOR A WATER PLAN

Recent droughts of unprecedented severity and still more recent floods of unexampled height have given dramatic emphasis to the fact that in some years the entire country may suffer, directly or indirectly, from too little water or from too much water. It is not generally realized, however, that in every year millions of people, in town and country alike, undergo losses from lack of water for essential purposes or from the ravages of uncontrolled water.

Frequently one hears the statement that the soil is our greatest asset. Obviously, however, soil has no productive value without water. So far as physical factors are concerned, lack of water, not of soil, ultimately will limit the capacity of the country as a whole to produce food and support life. Even now the further development of large areas depends fundamentally on the extent to which the available supply of water can be increased by storing surface

[1] In this paper the author has drawn freely on material written by him for the Water Resources Committee of the National Resources Committee and for the Great Plains Committee.

water, by pumping ground water, or by other means. The average daily consumption of water in the cities and villages of the country is now more than 100 gallons per capita. The demand increases steadily, particularly with the development of new uses. Thus, the rapid advance in the air-conditioning of buildings is creating an alarming increase in the demand on the public water supplies of various cities.

In the past, most people have been concerned with water solely in terms of their own immediate interests. A critical shortage of water in Los Angeles, for example, or a serious menace to public health from river pollution at Philadelphia, has occasioned little or no concern beyond the limits of the city involved. In the past, too, people commonly have been concerned only with particular types of water problems. The storage of water for irrigation, the control of a stream subject to floods, the improvement of a river channel for navigation, or other concern in the control or use of water has been treated far too often as an isolated problem, in disregard of the intertwining relationships among various types of water problems and in disregard also of the possibilities of multiple-purpose development. Too often, also, the treatment of specific water problems in terms of particular localities has resulted in injury to other interests or to other localities. Numerous ponds have been excavated to

conserve water in localities where malaria is prevalent, without regard to the possible effect on public health of the creation of more breeding places for mosquitoes. Great swamps have been drained for agricultural purposes in areas of submarginal utility, with resultant injury to wild life and impairment of stream flow. Flood protection for one community has increased the flood hazard in other communities farther downstream. Hundreds of small drainage works in the alluvial valley of the Mississippi, planned and built independently of one another, have resulted not only in strained social relationships but also at times in violence and wilful destruction of property. In short, water control and water development in general have been haphazard.

In recent years it has become increasingly apparent that such orderless, unintegrated treatment of water problems, however natural and excusable it may have been under pioneer conditions, should no longer be tolerated. As soon as practicable, wasteful use of water should cease. As soon as practicable, the maximum supply of water that can be made regularly available in each drainage area should be put to its best co-ordinated use. Continued unco-ordinated development of waters would presently preclude in many river basins the possibility of their later control and utilization in an orderly, balanced manner conducive in greatest

measure to the general welfare. From every point of view, continued unplanned action would be foolhardy.

A NATIONAL DRAINAGE-BASIN STUDY

In recognition of the urgent need for a plan and program on a national scale for the control and use of water, the Water Resources Committee of the National Resources Committee was instructed in the winter of 1935–36 to undertake a national drainage-basin study and to report the results for transmittal to the president on December 1, 1936.

The investigation had three main objectives: (1) to determine the major water problems in the various drainage areas of the country; (2) to outline in broad terms an integrated pattern of water control and development designed to solve those problems; and (3) to present specific construction and investigation projects, whether federal, state, or local in character, as elements of the integrated pattern or plan, with general priorities of importance and time.

To accomplish its task, the Water Resources Committee set up a special organization, including as key members a director and fourteen regional water consultants, each of whom had immediate responsibility for the investigation, as planned by the Water Resources Committee, in one or more drainage basins. The organization worked closely

with all federal agencies that deal in one way or another with water resources and water problems, utilizing all relevant data, published and unpublished, obtainable from them. It also worked closely with state planning boards, with other state agencies and officials, and with local organizations, utilizing, so far as practicable, the information they provided.

For cogent reasons the investigation was decentralized as far as practicable, and, as already noted, state and local agencies were afforded full opportunity to participate. First, it was evident that such a procedure would help, more than any other, to insure a truly national water plan and to promote both private and public interests. Second, the federal government could not impose any water plan on the states, even were it disposed to do so, since the control of inland waters rests in large part with the several states. Third, every state has responsibilities, no less than rights, in its waters; and these responsibilities it cannot properly shift to the federal government. Fourth, a water plan without action would be useless; and no general plan, however admirable in theory, could be put into action successfully that did not represent close co-operation between the federal government and appropriate state agencies.

By way of emphasis, it may be affirmed categorically that successful planning in America must

come in large measure "from the bottom up." As the Mississippi Valley Committee declared in its report in 1934: "Under the proven system of democracy no plan can be imposed upon the people. Government may inform, educate, and guide. It may mobilize resources for the common task. It cannot dictate. What must be sought is effective means for carrying out the common purpose. . . . ."

DEFICIENCIES IN BASIC DATA

Fundamental data essential to the formulation of a water plan were found to be lacking in greater or less degree for almost all drainage areas. In some areas, precipitation records are inadequate. In many sections, knowledge of underground water-levels is deficient. On numerous streams there are no gauging stations. Even on important rivers, major floods occur time after time without reliable records being made of them. No systematic discharge measurements were made on the lower Mississippi, greatest of all American rivers, until after the disastrous deluge of 1927. Adequate topographic maps are lacking for a large part of the country.

Many of the interrelationships among precipitation, evaporation, transpiration, infiltration, runoff, ground-water movements, soils, and vegetal cover are understood only vaguely. Effective appraisal of the many works of man that affect the

hydrologic cycle at one point or another has scarcely begun.

So long as the nation lacks basic information concerning its water resources, it cannot make the most effective use of them. Meanwhile, the economic cost of ignorance in these matters amounts to many millions of dollars each year. Hydrologic research is expanding notably; but strong recommendations for reducing and ultimately eliminating the deficiencies in basic data through provision, maintenance, and operation by federal and nonfederal agencies of an adequate number of precipitation stations, snow-survey courses, river-gauging stations, and the like have not as yet accomplished much. Here, as in so many other connections, there is urgent need for the pressure of an enlightened public opinion.

LIMITATIONS OF ANY WATER PLAN

The limitations of a water plan are inexorable. Future requirements for water in most areas can be estimated only approximately and for relatively short periods. They will be affected by changes in density of population, in land use, in business and industry, and in social conditions. The nature and extent of these changes will be influenced in turn by the supply of water. The supply now available may be inadequate even for present needs. The extent to which it can be increased may be unknown

for lack of basic data or for other reasons. The total supply, available and potential, may change through the operation of natural processes or through modification of surface conditions by human action. For these reasons, any water plan, no matter how frequently revised, must remain forever incomplete. Continuous water-planning will be necessary.

THE DRAINAGE-BASIN REPORT

The findings of the drainage-basin study are summarized in a report released in February, 1937, under the title *Drainage Basin Problems and Programs*. More than 7,000 projects in 118 drainage areas are presented in three priority groups. There are construction projects relating to bank and coastal erosion control, domestic and industrial water supply, drainage, flood control, generation of electric power, irrigation, navigation, recreation, soil conservation and forest development, waste disposal and pollution abatement, and wild-life conservation. There also are investigation projects in many basins. Some of the projects are single-purpose enterprises, others dual-purpose, and still others multiple-purpose. They provide a great reservoir of meritorious undertakings that should fit into an integrated program of drainage-basin development during the next decade or two. A beginning has been made in national water-planning;

as already indicated in effect, the end can never be reached.

It is particularly noteworthy that this report represents the *first* attempt to formulate a country-wide water plan and program through the co-operative efforts of federal, state, and local agencies, official and nonofficial, a plan and program based on joint consideration of interlocking water and land problems in terms of drainage basins as units. The report gives unprecedented emphasis to the possibilities of multiple-purpose developments, and should prove of value to all federal and state agencies concerned in special ways with water-planning by affording a framework to which their undertakings may be related. It is contributing to an enlarged vision with respect to water problems, as evidenced by technical discussions, planning activities, and legislative actions in various states.[2]

PLAN AND POLICY

An integrated national plan calls for an integrated national policy. A comprehensive federal policy with respect to the various types of water problems in their interlocking relationships should

[2] On August 20, 1937, the president requested the National Resources Committee to review and revise the report on *Drainage Basin Problems and Programs*. Forty-five drainage basin committees, with more than seven hundred state and federal representatives as members, were organized to assist the Water Resources Committee of the National Resources Committee in the undertaking. It is hoped that s milar revisions may be made annually.

replace existing unrelated policies that are applicable respectively to individual types of problems. Without such a new policy, the federal government cannot contribute effectively or equitably to the development and control of water resources.

The Water Resources Committee believes that a sound federal water policy will have seven fundamental characteristics, and its convictions on the subject permeated the drainage-basin study in so far as applicable to that undertaking.

1. A sound policy "will be concerned, in the final analysis, not with water per se, but with the promotion of public safety, public health, the public convenience and comfort, the economic welfare of the public, the establishment or maintenance of a high standard of living."

We cannot plan effectively for water without considering the associated problems of the land. We cannot plan wisely for water and land without planning for the people who occupy and use the land. All water problems merge into land problems and human problems. Frequently in the past we have not sensed the possibility and desirability of correlating them.

2. A sound policy "will seek to promote the maximum integrated use and control of water, within the shifting limits imposed by considerations of technical feasibility and of economic and social justification."

Integrated use and control of water mean planning and constructing projects for dual or multiple benefits where practicable. A large dam built for flood control only is a wasteful maladjustment, socially if not economically, provided it would have been practicable to design, construct, and operate it not only to control floods but also to aid navigation, create marketable power, or realize incidental reservoir values in connection with recreation and wild-life conservation. So far as practicable, rivers should be controlled and developed for *all* useful purposes.

3. A sound policy "normally will treat drainage areas as units with respect to their waters in recognition of the train of connected problems that runs from river source to river mouth."

Experience seems to have shown that no single type of areal unit is suited best for all purposes of investigation, of planning, or of execution. At the same time, it has demonstrated that drainage basins are the best areal units for integrated water-planning and that they cannot satisfactorily be divided and handled in pieces. As Abel Wolman, chairman of the Water Resources Committee, declared at the conference on upstream engineering at Washington in September, 1936, "upstream engineering" has no meaning as something distinct from downstream engineering. The measures adopted for the control and use of a river through-

out its length should form a unified program in which the various elements are established in proper balance.

4. "Though treating drainage areas as units, a sound policy will scrupulously observe the rights of the several states both in intrastate and interstate streams, seeking through co-operation to promote the full use of water in the best ways and in the proper places."

Throughout the country, most of the major problems of surface waters are interstate, not intrastate, in character. Controversies between states over rivers increase in number and intensity as the varied requirements for water increasingly tax the limited supply. Litigation is a slow and costly method of settlement, and often the results are inconclusive and unsatisfactory. Indeed, if a stream is long and large, and particularly if it drains areas dissimilar in surface and climate, it is practically impossible to present in court all the facts and considerations essential to an equitable and workable solution.

The only alternative to litigation, at least in the absence of effective federal control over interstate streams, is some form of voluntary interstate agreement or compact. Unless this method, which the Water Resources Committee has sought to promote in notable instances, such as the Rio Grande and the Red River of the North, proves to be gen-

erally successful, there may develop an irresistible demand that the federal government be given complete control of all interstate streams. The compact method is on trial. Its effectiveness has yet to be demonstrated.

The principle that a sound federal water policy will recognize the rights of the states in both intrastate and interstate streams is not a one-way proposition. In recent years many states have appeared to be highly, and properly, sensitive to their rights but correspondingly, and improperly, insensitive to their responsibilities. The times call loudly for public recognition of reciprocal responsibilities.

5. A satisfactory policy "will recognize and abide by the axioms that facts are indispensable prerequisites to sound action with respect to water, and that conclusions and commitments not based on predetermined facts almost certainly prove indefensible. In keeping with this recognition, it will promote by all feasible means continuous assembly of the basic data essential for an evolving, unending water plan."

Too often, doubtless in other fields as well as in the field of water resources, we demand prompt action rather than prompt preparation for effective action. Too often we act on wishful conjectures rather than on established facts. Too often we fail

to face facts, if and when available, provided they are unwelcome in character.

Let the situation in the vast drought area of the Great Plains, covering approximately 360,000,000 acres in ten states, illustrate on a grand scale this reluctance to face unwelcome facts and their implications. The history of the Great Plains is characterized in the Report of the President's Committee on the Great Plains as a story of sharp contrasts: of nourishing rains and withering droughts, of bountiful harvests and crop failures, of optimism and despair, of advance and retreat by settlers. The greatest handicap of the region always has been and always will be lack of sufficient water. Everywhere relatively scant, the precipitation of the Plains is characterized by unpredictable variability. It varies around a critical point for crop production, and even a slight reduction of moisture affects the crop yields seriously. The irregular recurrence of excessive drought is inevitable. No device for supplying water to dry land can succeed without the water. Less than 3 per cent—perhaps less than 2 per cent—of the area can ever be irrigated. There is no point in digging ponds or constructing reservoirs in localities where there is no water to impound. It is unwise to dig large numbers of ponds in drainage areas where a few reservoirs, properly located, designed, and constructed, would retain all runoff, whereas numerous ponds

would increase greatly the evaporation losses and so reduce the amount of water that might be made available for beneficial use. No simple panacea of any kind exists. Mitigation of the effects of drought involves, among other things, such control and regulation of the scant and unreliable water supply as may be possible and feasible, and an adjustment of land and water economy to that supply. No more is possible. Harmonious adjustment to the ways of Nature in the Plains must take the place of attempts to "conquer" her. To hope that she may change her ways is futile.

During recent years the economic drift in the Plains has been steadily downward. If the deplorable consequences, heightened by the depression and the superdroughts that coincided with it, are to be arrested, it will only be because fundamental readjustments are made that involve comprehensive action by government—federal, state, and county—as well as by individuals. Unfortunately, there is little evidence of a general willingness to recognize and act upon these simple basic facts of water supply, land use, and their interrelationships, in terms of which alone successful readjustments can be made.

6. A sound policy "will assign the cost of constructing and operating projects undertaken from time to time as suitable elements in an evolving water plan among the agencies concerned in as

close accordance as possible with the distribution of benefits. The proposition that those who will profit from a given undertaking normally should pay, in a manner not involving avoidable or undue hardship, in proportion to the advantage they will reap should be the basic principle of action."

This principle of action is very unpopular at the moment. It might be less unpopular in some communities if the elementary fact were kept firmly in mind that any so-called "grant" or "gift" from the federal government must soon or later be paid back by the people of the country in the form of taxes. The current powerful effort to shift to the federal government entire financial responsibility for flood protection is a phase, I believe, of one of the more sinister movements in America today. Federal participation in flood protection, as in water control and development in general, should normally be determined by, and restricted to, the extent of the national interests involved. The adoption of this equitable principle would serve, incidentally, as a wholesome deterrent to unworthy projects.

7. "In determining whether or not water projects are justifiable, and in distributing the costs of meritorious projects among the beneficiaries, a sound policy will take properly into account social benefits as well as economic benefits, general benefits as well as special benefits, potential benefits as

well as existing benefits, wherever they are involved."

Because some of these benefits cannot be measured, they commonly have been ignored. Many of them are subject to reasonable appraisal, however, and they should not be neglected in the future. In great measure they concern the public at large. Obviously, a public water policy should conserve and promote public interests. To that end, social accounting must take its place with economic accounting.

A plea for the recognition of imponderable social factors in the evaluation of large water projects should perhaps be accompanied by a plea for caution in so doing. Here, again, the current agitation for further flood protection may afford an illustration. In a report dated April 6, 1937, the chief of army engineers holds that an expenditure of approximately $800,000,000 for additional protection in the Ohio and Mississippi valleys would be justified on the ground alone of saving life, reducing suffering, and preventing disturbance to the affairs of the nation. A proposal to spend without stint to save lives and reduce misery may seem beyond challenge. It is obvious, however, that the expenditure in other ways of more than three-quarters of a billion dollars could bring far greater returns in reduction of deaths. It is clear, too, that adequate forecasts of flood stages and effective

plans for the prompt evacuation of lowlands upon notice of the approach of uncontrolled flood waters could largely prevent, at comparatively trivial cost, the destruction of human life by floods in these valleys. Such observations suggest a need of more definite bases for the justification of the huge additional expenditures proposed on the Ohio and lower Mississippi. Combined technical, economic, and social considerations suggest, it may be added, that the answer to the demand for better protection of life and property against floods lies in a wiser use of land subject to flooding, as well as in regulation of floods by engineering works.

EXISTING SPECIAL POLICIES

The requisites of an integrated water policy doubtless will be subjects of lively professional and general discussion during the next few years, and the discussion naturally will involve reappraisal of existing special policies.

There has long been a federal policy concerning inland navigation, involving the improvement and maintenance of river channels at national expense for the free use of shippers; concerning the reclamation of arid western lands, involving the construction by the government of irrigation works to be paid for ultimately by the water-users; and concerning water powers on navigable streams and streams within the public domain, involving de-

velopment by licensees. In 1936, too, a federal policy concerning flood control throughout the country was established by congressional action.

The inland waterway movement gathers strength with passing years. Demands multiply for further improvements under existing policy. Should further improvements be undertaken under that policy? Should they, instead, be contingent upon substantial local contributions to the cost? Should public funds be expended on further improvements only if the prospective benefits *to the public* are commensurate? Should carriers and shippers hereafter pay a suitable fee for the use of improved waterways? These are critical questions of policy, so far as navigation enters into the use and control of rivers. My own answers to them doubtless have been sufficiently revealed. As soon as possible, navigation should be relieved of the unfair burden it repeatedly has carried in providing constitutional support for other phases of river regulation and development. It should not be left in a false position that lends support to pressure groups habitually seeking congressional approval for projects of little or no merit. It should not bear an inequitable share of the joint costs of multiple-purpose enterprises in order to validate other objectives or to give those objectives an undue advantage.

A new chapter is opening in the history of irriga-

tion in the West. No more large developments of simple type and low unit cost are possible. Most undeveloped projects that remain will involve the control of entire rivers. Like the Boulder Dam project, they will be multiple-purpose undertakings. How shall the costs of such multiple-purpose undertakings be allocated between irrigation and the other interests involved? Shall the old policy with respect to charges for water on federal projects be maintained where practicable? How shall it be modified where it would be impracticable? The problems of preventing excessive use of water in irrigation and of transferring water supplies from poor lands to good lands are widespread, difficult, and will yield only gradually to the co-operative efforts of federal, state, and local agencies. Public policy, federal and state alike, should look forward to the accomplishment of these ends.

The policy with respect to hydroelectric power embodied in the Federal Power Act is not applicable to many of the greater potential water-power resources of the country, for the requisite undertakings are too difficult from an engineering standpoint, too large, and too costly to be attractive to licensees. Moreover, these great projects have elements other than the production and sale of power which render them appropriate only as federal enterprises. Inevitably, I think, we shall see, from time to time, new projects of the Bonneville type.

As Bonneville itself has neared completion, two major issues of national power policy have arisen. First, how shall this project and similar federal power projects, other than those under the Tennessee Valley Authority, be administered? Second, on what basis shall rates be made and power be distributed to consumers? These issues have been subjects of congressional hearings and debate.

If power can be developed economically as a phase of the regulation of a river, it should be developed. To waste it would be reprehensible. To sell it would help not only to serve the energy-consuming public but also to defray the cost of controlling the river. A multiple-purpose project that would otherwise be impracticable may be made entirely feasible through production of power. Social benefits from unified development may justify public outlays which private interests could not be expected to make, even if financially able to do so, because they would not yield direct and tangible profits.

The policy with respect to flood control that was established by the act approved June 22, 1936, is open to severe criticism on fundamental grounds. At least two of its defects are covered by preceding statements. Instead of making the solution of the problem of floods an integral part of a comprehensive measure for the control and use of water in the various drainage areas, the act authorizes

merely a reservoir here and a levee there, a retarding dam in one place and a floodway in another, to the number of more than two hundred. It authorizes flood-control projects in areas having other problems of water far more urgent than those of floods and in which multiple-purpose projects, including flood control, are feasible. Although it establishes, temporarily at least, the admirable principle of local participation in the cost of flood-control projects authorized by Congress, it does so on an inequitable basis. In some instances local agencies would be required to provide, in the form of the lands, easements, and rights-of-way necessary for construction, half the inclusive cost of a given project, whereas in other cases they would have to contribute less than 5 per cent of the cost. The distribution of costs among the beneficiaries bears no close relation to the incidence of benefits. Certain projects which relate to floods only in minor degree are authorized by the act as flood-control measures, in contravention of existing national policies with respect to the major interests involved.

REGIONAL PLANNING AGENCIES

The view that national planning should be organized on a regional basis has gained momentum steadily in recent years and has led to a variety of proposals for the creation of regional planning

bodies. In a message to Congress on June 3, 1937, the president set forth the fundamental problems of regional planning, and proposed the establishment of seven regional planning agencies or authorities. These agencies would continuously develop, revise, and adjust integrated plans and programs to conserve and to safeguard the prudent use of the waters, soils, forests, and other resources intrusted to their charge. They would help to co-ordinate the activities in their respective areas of federal, state, and local agencies. They would report annually integrated programs of related activities to Congress through the president, after he had had the projects checked by the proposed permanent National Resources Planning Board in the light of national planning policies and interregional relationships and by the Bureau of the Budget in the light of national budgetary considerations. Projects authorized by Congress could then be carried out and managed by the appropriate departments of the government, or, if desirable in particular instances, by one or more of the regional bodies.

In time a regional approach to the requirements of a moving national water plan probably will be adopted by Congress. What form it will take cannot be predicted. What form it *should* take is debatable. There is ground for doubting the wisdom of granting new regional agencies executive authority. If that were done, there would be danger

of encroachment upon the rights of the several states and of unwarranted assumption of some of their responsibilities. Certainly, the early establishment throughout the country of authorities of the T.V.A. type would be premature, to say the least. There is good ground for thinking, on the other hand, that appropriate regional agencies could perform a necessary and useful function in the field of co-operative planning by co-ordinating interstate, state, and local activities, on the one hand, with federal activities on the other hand.

All these questions of policy, old and new alike, should be given an adequate forum. The decisions to be reached are of great significance.

THE OUTLOOK

Progress in dealing with the complicated and fundamental problems of water resources will be impeded, as in the past, by lack of facts, understanding, and perspective; by impatience, leading to premature action; by conflicts of interest in water between private users, between private and public organizations, and even between public agencies; by the uncompromising attitudes of crusaders for particular causes; by the selfishness of individuals and groups seeking special advantage; by pressure groups struggling for government bounties; by public bewilderment, based at times

on what has aptly been called "authoritative misinformation"; and in other ways.

Nevertheless, large-scale water-planning will become more and more important. This is inevitable. The problems of great river systems can be met only by concerted national and, in some cases, international effort. It is impossible otherwise to cope with them, and they cannot be avoided. The effective control and efficient use of water, without waste, with greatest total benefits and greatest practicable economy, will require the active support of an informed public and the unremitting efforts of qualified planners and engineers, of legislators and administrators. No exaggeration is involved in the statement that the future of the nation will be influenced profoundly by the effectiveness with which its limited water resources are controlled and used for the greater good of the greater number.

RESHAPING THE MAP OF WEST AFRICA

By DERWENT WHITTLESEY

RESHAPING THE MAP OF WEST AFRICA

West Africa is a natural proving ground for testing colonial governance as it is conducted by European nations in the twentieth century.

Barred off from Europe on the north by the Sahara, forbidding because of aridity, and on the south by the no less hostile coast—rain-drenched, harborless, and fever-ridden—West Africa held Europeans at bay until nearly the end of the nineteenth century. For four hundred years the European nations fringing the Atlantic Ocean had been trading with all the outlying continents, had been zestfully proselyting among the heathen, and in the process had evolved modes of political administration calculated to further their commercial and theological ends. West Africa, on the route to the desired Indies, was discovered first among the regions of the new worlds. Thenceforth, every European country which was seized by ambition to trade overseas, attempted to pierce the natural armor of the Guinea coast. Indeed the kaleidoscope of political toeholds there—Portuguese, Spanish, Dutch, French, British, Danish, Swedish, even Prussian—has been, through the centuries, a crude measure of colonial success. By the time of

the general African land grab of 1884–85 all earlier holdings had been extinguished by the French or the British, except for some unwanted Portuguese and Spanish territory and the anomalous Liberia. These two veteran colonial nations were left to dispute the field with each other and with the rising power of Germany. At the Congress of Berlin in 1884–85 these three states parceled the West African coast among themselves, projected spheres of influence into the interior, and set about making good their claims in a final mad scramble for African territory. To this operation the French and the British brought centuries of experience in colonial trade, missions, and administration. All three powers also brought to bear upon the environmental unit which was West Africa, their national traits, their distinctive genius. In the process of making colonies, they have, for the first time in history, effectively reshaped the map of this region.

THE NATURAL ZONING AND ITS CULTURAL COUNTERPART

Nature in West Africa has pointedly directed the life of its denizens. Nowhere is the pattern of the natural environment more coercive. Until the arrival of the Europeans, occupiers of the region closely followed these unmistakable directions.

Photography has rendered familiar the four characteristic African scenes; each of them is found

in an east-west band traversing the length of this part of the continent (Fig. 1). Along the coast, rain-drenched forests of giant trees and jungly openings—the so-called "big bush." Next, the Sudan or "small bush"—parklike savanna interspersed with thickets of low, shrubby trees. Farther inland a steppe, herbaceous and grassy, trees being absent or wide-spaced; this is the Sahel. Finally the desert—the Sahara, at once a part of the region and its northern boundary.

No other populous region is so nearly immune to penetration. On the north the broad barrier of desert discourages intercourse with Mediterranean lands, and is crossed today, as in all preceding ages, by exception only. In the west and south a combination of barriers hampers contact overseas.

The dense rain forest of colossal trees and tangled vines, the mangrove-fringed lagoons and deltas, themselves formidable obstacles to movement, are reinforced by the prodigious surf which breaks on mile after mile of beach in incessant thunder and will destroy any ship so unlucky as to get into it. With few exceptions, landings can be effected only by specially constructed boats—the light dugout canoes of the indigenes or the sturdy, smooth-sided oaken surfboats made in Europe for the purpose.

West Africa begins at the Senegal River (Fig. 1). North of Cape Verde, dunes and desert lie behind

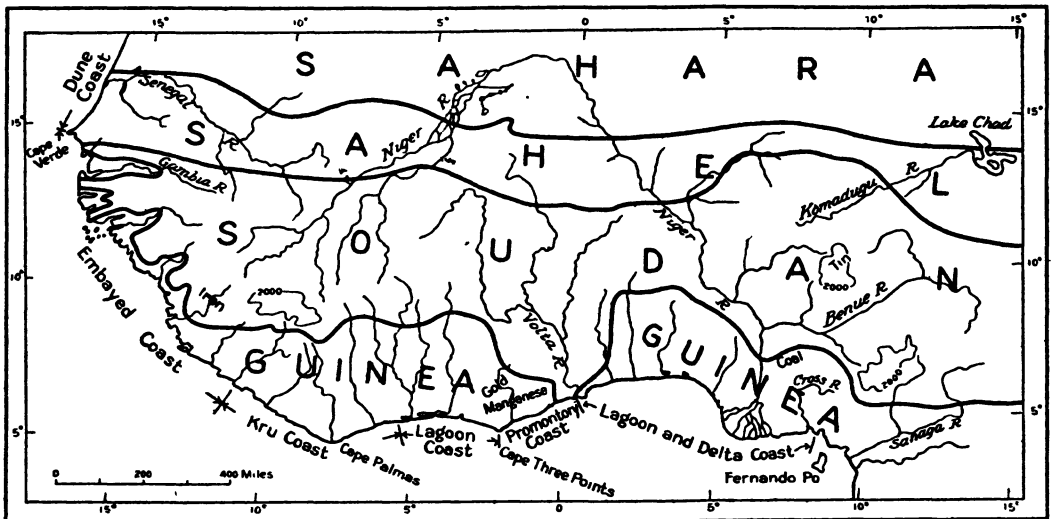


FIG. 1.—West Africa. The pattern of nature

the line of foam which marks the breakers. Between Capes Verde and Palmas the dangers of navigation are enhanced by numerous offshore islets, many of which are jagged rocks leveled by the waves to a few feet below high tide. There, however, lie the only natural lines of ingress to the region—the open mouths of the Geba and the Gambia. The Geba waterway has been retained by Portugal as a relict of its great day on the coast. The Gambia is the artery which has kept alive the British colony of the same name. That both these approaches have been vitiated by shearing from them their tributary hinterlands is one of the ironical incidents of reshaping the map by rival European powers. The accessible harbor of Freetown is cut off from the interior by mountains, but it provides the material base for the small British colony of Sierra Leone. Dakar is only an open roadstead at the extremity of a long and barren point.

From a little east of Cape Palmas to Cape Three Points the barrier beach is unbroken and the surf reaches its maximum. Then for a short distance (not quite to the Volta River) the coast is less regular, being broken by low promontories which provide a modicum of shelter for canoes and surf-boats. This is the most suitable sector for European posts along the whole coast. Rocky headlands stand as low, wave-cut cliffs above the clamorous surf, offering wind-swept and easily defensible sites.

This is, moreover, the Gold Coast, to which natives from upcountry brought that metal, in addition to the ivory, peppers, and slaves common to the whole of Guinea. After four centuries of bitter rivalry, Britain became undisputed master of this favorable "Gold Coast," only a decade before the Congress of Berlin. Near the Volta begins another continuous beach which merges with the island fringe of the Niger Delta. Even the distributaries of this majestic river fail to maintain free passages suitable for modern ocean-going ships, although a few of the deltaic outlets permit small ships to make contact with river craft. This section of lagoons and islands became the fourth British colony of the coast—appropriately named Nigeria.

Everywhere from the Senegal in the western margin of the desert, to Cameroons, the few streams which send out enough water to cut the barrier beach either do so only in the wet season, when the surf is highest, or make shallow and shifting thresholds to the interior. If they are to be used by ocean ships of the twentieth century, they must be dredged, and most of them must be improved by jetties as well. The few coves and roadsteads which partially sheltered mariners of earlier days must be equipped with breakwaters before modern vessels dare enter them.

In addition to the handicaps of shore and surf, mariners must cope with dense fogs and with a

uniform shore line almost devoid of natural landmarks and, for the most part, unmarked by buoys and beacons. The whole coast is strewn with wrecks, many of which are the only reminders of lurking reefs and shoals.

Once on shore, the invaders' troubles have only begun. The windswept, sandy beaches provide dry but impermanent sites for settlements. The mangrove-fringed lagoons and deltaic streams are sodden and steaming. Yet all these handicaps of terrain have been nothing compared to dangers from disease: yellow fever, blackwater fever, and sleeping sickness in epidemic waves; dysentery and malaria as constant and inescapable companions. To these formidable enemies, the hostile Negroes themselves often added their poisoned darts and spears in earlier centuries.

It is easy to understand why Europeans were long baffled in their attempts to penetrate West Africa's tough epidermis. For decades their trading was confined to shipboard, at first by passing vessels, later from old hulks. Anchored outside the line of surf and reef, safely beyond the flight range of arrows, tsetsè flies, and mosquitoes, and drinking only ship's water, the trader and his crew were comparatively safe. Later the least risky landholds were selected as sites for trading posts and missionary enterprises. Nearly all the initial settlements were on islands, because they afforded a

measure of protection. The few lying well offshore, such as Fernando Po and Goree, were as remote and as awkwardly situated as the hulks themselves. The most accessible lay in the mouths of the larger rivers; but a number had to be abandoned in the face of epidemics, always likely to break out on these low shores lapped by stagnant waters in adjacent lagoons.

It was only with the knowledge of sanitation, and particularly the understanding of the relation between insects and malaria, yellow fever, and sleeping sickness, that the Guinea Coast ceased to deserve its traditional appellation, "The White Man's Grave." It is perhaps more than coincidence that restriction of European settlements to the coast ceased during the years when these medical discoveries were being made.

The interior "small bush" of Sudan and Sahel is not immune to malaria and dysentery, or even to occasional ravages of yellow fever and sleeping sickness. Yet it is less subject than the coastal forest to these diseases, especially during the long dry season. And through its open woodland and steppe, movement is unhampered by jungle, marsh, and ubiquitous wide streams. In contrast to the isolated tribes characteristic of the forest, all the drier country has been consolidated at times into large political units; and except for the Nigerian Plateau, nearly all the aboriginal inhabitants have

been subjected to the traditions and practices of Islam, brought in from the desert centuries ago. While Europeans had been beating against the Guinea coast, this black Mohammedan society had been pressing against the northern margin of the forest, with no greater success. It therefore is fair to insist that, until a generation ago, the pattern of nature in West Africa was clearly reflected in the pattern of culture.

TENDENCIES TO REORIENT THE CULTURE PATTERN

The very intensity of the east-west banding of West Africa has immemorially led to movement across the grain of the country. Urged on by internal diversity, traders have exchanged products, warriors have sought power, and tribes have migrated to new homes in districts not wholly like their own. For many centuries the principal incentive to this movement was the prime African resource, Negro slaves. Both the European coastal traders and the potentates of the Sudan engaged in the trade, and both drew chiefly upon the inner forest zone, which was subjected to incessant raids. This practice had one significant effect upon the political situation of today. It consolidated tribes of the northern margin of the forest into political powers which arrested the expansion of Sudanese states and gave pause to colonial ambitions of

Europeans. The formidable power of these forest folk was derived largely from their environment. A ruler of a tribe in the hinterland of the Gold Coast sagely boasted, "The bush is stronger than the cannon of the white men."

With abolition of the slave trade and slavery in the Americas, European interest in West Africa slumped. The hoards of ivory and gold were declining sharply at the same time. For a decade or two it appeared that Nature was about to reclaim her traditional sway over the region. Sometime after the middle of the nineteenth century, new uses of West African resources resuscitated flagging European trade. Rubber began to be demanded in quantity; lumber (African mahogany) was found to make excellent cabinet wood; and palm oil was introduced to the commercial world as a cheap and satisfactory ingredient for soap. National rivalry for possession of these resources was spurred by the awakening eagerness for overseas colonies in the new national states, Germany and Belgium. At about this time, venturesome explorers in the Sudan were reporting rich, walled cities and nefarious slave-raiding—reports calculated to excite both cupidity and pity in European nations having African interests. In response to these coincident stimuli, coastal settlements were revived, trading agreements with chiefs of the interior (Sudan as well as Guinea) were made, armies followed in the wake of

ramifying trade to protect it, and surprised native rulers discovered that their agreements to trade had been subtly converted into deprivations of sovereignty.

As a consequence of treaty settlements made between European governments during the years immediately before and after 1900, the West African realm entered upon a period of swift change, which continues today. By defining European claims to the hinterland as well as to the coast, the stage was at last set for the first thoroughgoing exploitation of the West African realm as a land, apart from a mere unexplored source of slaves, ivory, and other extractable exports. Shortly after 1900 the boundaries between the rival European powers were demarked (Fig. 2). Few of these conform to tribal bounds, but instead cut through them ruthlessly. Ever since, the face of the earth has been in process of alteration by new routes, new towns, new systems of production, conforming in part to the new political mold. The component regions are being reoriented and rearticulated to suit the convenience of European masters. For the first time in history, West Africa lies open to the outside world, and primarily by way of the Guinea coast.

The object of the present rulers is to incorporate the resources and people of the region into the occidental economic world. The political and social

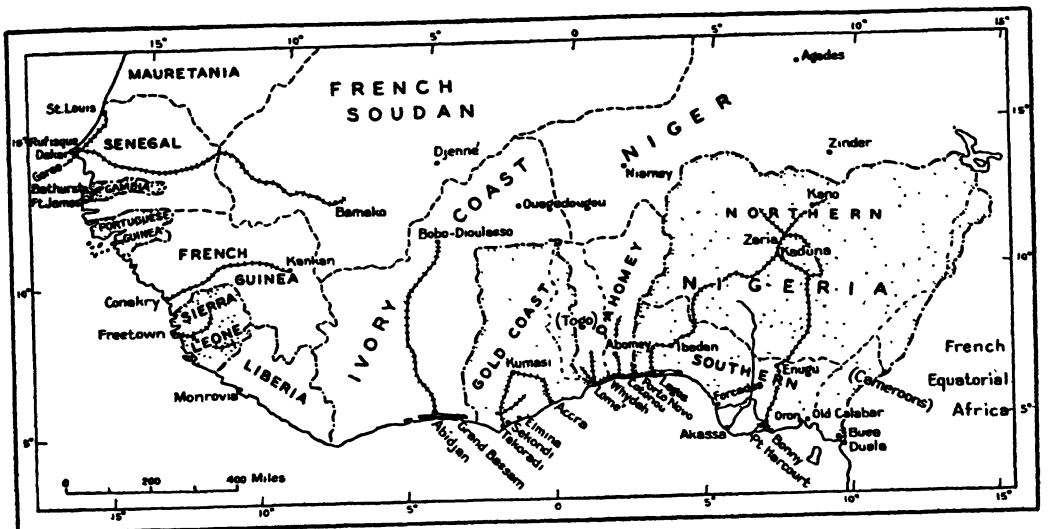


FIG. 2.—West Africa. The pattern of culture

readjustments in process are unplanned results of this attempt or inevitable incidents in it. The expression of these alterations, whether calculated or accidental, is the changing map. A new pattern of life has been sketched upon the landscape. This is nothing less than a reorientation from a culture pattern conforming to the east-west zoning of nature to a culture pattern trending north-south. Given continued European control, the north-south lines of the cultural impress are bound to etch themselves ever more deeply into the landscape. Government decrees it, and trade invites it. Commerce and politics! What other combination of human instruments is so potent to mold the face of Nature as this?

THE IMPOSED CULTURE PATTERN

The culture pattern imposed on West Africa in the twentieth century is most apparent in political lines and in trade routes, and it is chiefly these which appear on a map.

Because the European masters could reach the region most easily by sea, the least unfavorable coasts have traditionally been the bases of operations. These were the estuaries and inshore islands of the west, the promontory roadsteads of Gold Coast, the streams of the Niger Delta, and the indentations of Cameroons (Figs. 1 and 2). Before 1900 nearly all these choice footholds had been in

British hands at one time or another, and in that year the "mother of colonies" retained all but four: the swampy Geba estuary, left in the hands of Portugal; the inshore island Goree and barren Cape Verde, and the islets at Conakry five degrees of latitude farther south—both long since allocated to France; and Cameroons, abandoned to Germany after 1884–85. France was residuary legatee of most of the intervening shore line, precariously in touch with the outside world over surf-beaten barrier beaches. Germany received a few miles of coast between Gold Coast and Dahomey. Liberia, set apart by the aegis of the American eagle, has remained outside the currents of West African political evolution.

From these coastal contacts, the three colonial competitors feverishly set about assimilating as much of the interior as possible. These efforts promptly produced the political map of today, except as it was modified during the World War by partitioning the German holdings between France and Britain.

The struggle to convert spheres of influence into incontestable colonies was brief. While Britain held most of the footholds suitable as military bases on the forest coast, France profited by possession of the back door through Algeria and the Sahara, and the side door at Cape Verde, whence the Senegal River pointed the way through open, easily

traversed country to the Upper Niger and beyond—i.e., the length of Sahel and Sudan (Fig. 1). Native resistance from the dreaded, fabulous cities of this interior country faded before the resolute measures of both French and British military forces. This further favored French expansion, because several chiefs of the inner margin of the forest stubbornly contested the white man's aggression and slowed British progress, wholly dependent, as it was, upon bases on the forested coast. At the end of a few years the rival forces reached stalemate and promptly defined their boundaries, in order to turn to the slower business of establishing relations with the indigenes and solving the recalcitrant natural environment in which they found themselves. L'Afrique Occidentale Française (in local parlance the "A.O.F.") is today thrice as large as the combined British West African colonies. Nevertheless, it comprises only five-eighths as many people; and we therefore cannot escape the conclusion that Britain controls the lion's share of West Africa's resources—at any rate, those utilized to date.

Political lines.—The political boundaries, demarked antecedent to European occupation, have caused no serious friction among the ruling nations. For the indigenes these boundaries are imposed upon, and often cut across, tribal units which had grown up in adjustment with conditions of the

natural environment. To be divided between opposed systems of government is itself vexatious. Trade and agriculture induce seasonal movements across some boundaries, and intensify the annoyance. For instance, thousands move into British Gambia from French territory to work on the peanut crop, and the northern boundaries of Gold Coast and Nigeria bisect regions which are both agricultural and commercial units. For trade with the outside world, French Niger is dependent upon the transportation facilities of British Nigeria, and pack trains and caravans traverse the boundary daily during the harvest season. In some cases tribes which the boundaries divide appear to be reuniting by concentrating on one side of the line. This dislocation of population overtaxes the resources of the chosen land and abandons equally useful territory to desuetude. Besides, it causes ill feeling between the European administrators concerned.

The obvious solution for this potentially dangerous tendency, rectification of the boundary, has been achieved only in the former German Togo, where the line between British and French mandates was drawn to conform in part to tribal boundaries. Attempts to make changes are generally blocked by administrative suspiciousness. Social groups are adaptable, and in time the boundaries may become accepted as features of the cul-

ture pattern to which the life of the indigenes will conform. At present the major political boundaries must be recognized as immature and therefore subject to stresses potentially dangerous.

Lesser administrative divisions betray immaturity in another way. They are changed frequently. Sometimes the alterations are made to suit progressing conditions, as European innovations reorient or consolidate districts. Thus, extension of the railroad in Ivory Coast province led to partition and extinction of Upper Volta province. Sometimes changes follow belated recognition of tribal distributions hitherto disregarded; this has been a common reason for rearrangements in British territory. Sometimes administrative boundaries are shifted for no better reason than a whim of the governor, often a newly arrived governor, whose knowledge of the country is as yet imperfect.

Commercial lines.—No less immature than the political pattern is the network of transportation lines. This appears clearly on the railroad map, because West Africa is still in the railroad age (Fig. 2). Yet no rail net exists, and there are hardly any feeder lines. Each subcolony of France, including Togo, is as dependent upon its own railroad to its own coast as are the four separated British colonies. Several of the lines stop within the forest. Others reach into the more open country beyond, but there is no interlinking. Motor roads, as well as

caravan routes, connect the more important interior centers; but they carry nothing approximating regular public services for either freight or passengers. Airlanes are not regularly flown, except for the mail planes connecting with Europe.

The separate lines of rails have been built by the several colonial governments for two purposes: to tap the resources of the interior and to facilitate government of the inland tribes and states. The earliest to be constructed supplemented navigable rivers—Senegal, Upper Niger, Lower Niger. Others reached into mining districts (Figs. 1 and 2). En route several lines pass through populous settlements, especially the cities of the inner forest.

The streams of West Africa are notably unsuitable as transport routes. All of them fluctuate markedly with the seasons of rain and drought; most of them are interrupted by long reaches of rapids; and only the Middle and Lower Niger cut across the grain of the country. All but four have been superseded by railroads. The Gambia, the most even-tempered, remains the adequate line of communication for the British colony of the same name, a colony which, however, has been shorn by treaty of all its hinterland. Parts of the Upper Niger system are used during the wet season, but the boats have to put up during half the year. The railroad connecting Niger with Senegal has been continued to the coast, and the Sènegal is no longer

used at any season. The Benue, a forest stream, serves east-central Nigeria, and the Lower Niger retains a little business, chiefly local trade on the delta. The railroad which was constructed northward from the head of all-year navigation on the Niger has discontinued regular service between the river and its junction with the main line.

Minerals, although never a major resource, have stimulated and directed railroad construction, as is so often the case in new countries. In western Gold Coast, petty native production of gold has been superseded by large-scale operations; and the first rails of the colony were pushed inland from the roadstead nearest the goldfields, and not from the political capital (Figs. 1 and 2). Manganese, not far from the gold, became critical during the World War and justified further railroad-building. Continuation of the line made it terminate in Kumassi, interior metropolis and seat of the powerful Ashanti, who had defeated a British garrison a few years earlier. The colonial capital, Accra, had to wait nearly two decades for railroad connection. With seizure of interior Nigeria, the plateau was found to be the source of tin used by West African negroes from prehistoric times. Its placers were soon being washed under supervision of British mining companies, and step by step railroad lines brought the tin mines closer to their outlet on the coast. The last linked the plateau to the line built

from the coast during the war to tap the one known coal field of West Africa (at Enugu).

Colonies which possessed no mineral wealth have pierced the forest with rails to reach the Sudan where skins and leather, shea butter, cotton cloth, and more recently raw cotton and peanuts, have become important articles of export. Bamako, Kankan, Bobo-Dioulasso, and Kano are trading cities at the inland terminals of these railroads. Most of the lines pass through native cities of considerable size, one of which, Ibadan, is the home of nearly half a million people.

Shorter railroads reach the inner margin of the forest (as those of Sierra Leone, Gold Coast, and Dahomey) or lead to plantations in the former German colonies (Cameroons and Togo). A number of these, as well as the long routes, pass through or terminate at ancient native capitals—obviously sound policy during the uncertain period when foreign authority is being established over peoples recently conquered.

In accord with a well-established geographic principle the seats of European colonial administration occupy coastal locations. Moreover, they mark starting-points of rails. The exceptions are certain subprovincial capitals: Bamako, Kaduna, and Niamey in provinces which have no seacoast; Enugu, on well-drained slopes behind the Niger Delta; and we might add Buea, the former (Ger-

man) capital of Cameroons, which profits from more than a thousand meters' altitude although but a few miles inland (Fig. 2). All these are on railroads except Niamey in the remote Niger territory. Motor roads lead from inland points to most or all the indigenous capitals not reached by rails. In the dry interior these roads can be cheaply built of local laterite, and they are not seriously damaged by the rains. The railroads are most needed in the forest zone, where road maintenance is costly and, at the height of the rains, almost impossible. It may be that existing plans for extending rails will be shelved. If not, the explanation will be political rather than economic. Yet it is doubtful if motor roads alone can handle the freight of a fully developed West Africa, and some experienced administrators deplore the present tendency to quash railway construction.

Railroads and motor roads have substituted rigid trade routes for the traditional footpaths of the West African realm—lines easily relocated and therefore unfixed. Trails have been reoriented to serve as branches of the rail lines, there being few feeder railways. The right-of-way itself is beaten hard by the feet of indigenes too poor to ride in the trains but thankful for the smooth, level, and well-drained footing, free from the tangle of jungle trails and from the sword-sharp grasses bordering savanna footpaths.

Commercial and political centers.—Ports along the coast have been revolutionized by the creation of rail terminals. Since 1900, assurance of a free political hand has stimulated the construction of harbor works, generally at a single port in each colony. For a number of years these were confined to landing-stages for lighters in the few estuary harbors and to piers extending through the surf at beach ports. Railroads and increased trade have focused business at a few points and have warranted governments to construct real harbors, although costly outlay is required on this refractory coast. Today ocean vessels can berth alongside at six ports,[1] and a seventh shortly will be equipped (Fig. 2).

Lagos has long been a center of political and commercial operations in the populous area southwest of the Lower Niger. It lies at the crossing of the great lagoon that extends the delta network of waterways westward to Dahomey, and a stream powerful enough to maintain a precarious opening through the barrier beach (Figs. 1 and 2). The ancient settlement fronts deep water and stands on an island in the lagoon (Fig. 3). This site was favorable, both for the water-borne trade of early days and for defense during the period of slave-raiding. When the first Nigerian railroad was

[1] Dakar, Bathurst, Conakry, Takoradi, Lagos, Port Harcourt. Abidjan is under construction.

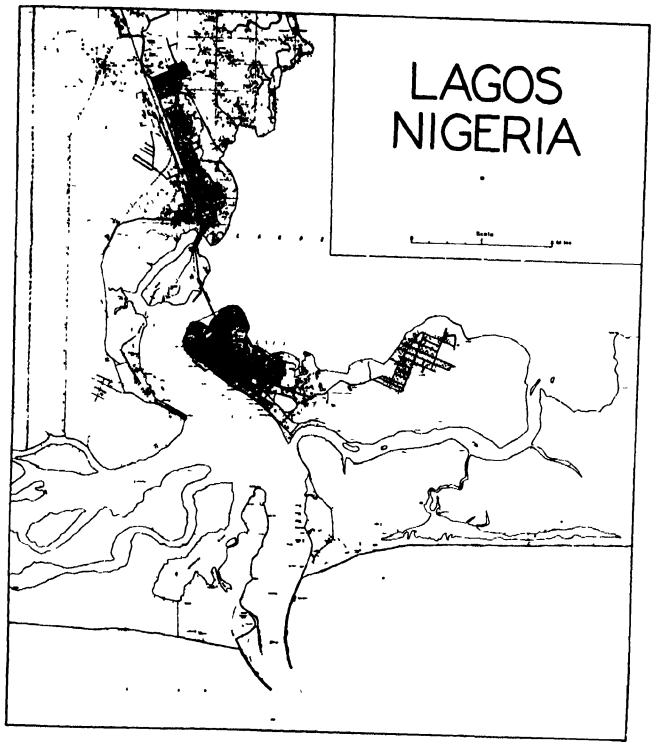


FIG. 3—The site and port of Lagos

brought to the coast, it made its terminal on the landward side of Lagos lagoon. For years contact with the old town was left in the hands of ferrymen, but recently a long vehicular bridge has been completed. As increased business came to warrant further expenditure by government, the unsatisfactory opening through the bar was dredged and stabilized by jetties, permitting large ships to enter the lagoon. Berthing space, warehouses, and cranes have been provided opposite the old city on newly cleared mainland, to which the rails easily could be extended. New businesses using the port, such as petroleum companies and soap-makers, have located between the rails and the harbor, and residential villages for the workmen are growing up close by. Thus far, the old town has retained the retail business, the shipping offices, and a considerable number of warehouses—all built before the modernizing of the port, and not too awkwardly situated for lading ships, anchored in mid-harbor, by means of lighters. By making the lagoon the commercial core of the town, Lagos has been able to keep up with the times and presents a lively scene of ships, lighters, ferries, and canoes, against the background of its thronged main street, which faces the busy harbor. Space in the old city is at a premium, and a spacious suburb for officials has been laid out by the government four miles from the front.

In contrast to Lagos is the outlet of the Ivory Coast railway. There European settlements are being drastically rearranged as a result of government plans (Fig. 4). On the almost continuous barrier beach of that colony, Grand Bassam grew up as a surf port opposite the debouchement into the lagoon of a considerable stream (Figs. 1 and 2), down which moved logs, ivory, shea butter, and other woodland products. When a pier through the surf was built for the colony, Grand Bassam got it, being the most active trading town along the whole coast. The political capital of the colony was set up at Bingerville, a few miles upstream on the mainland side of the lagoon. The waterways, which nourished Grand Bassam, interposed formidable barriers to railroad construction. Hence the terminal of the line to the interior was placed some eight miles to the west. There, on high ground fronting deep water in a commodious lagoon, the government has undertaken to erect a fiat political capital and commercial metropolis, Abidjan. Its location is similar to that of Lagos, with the additional advantage of being on the mainland. At present it lacks water connection with the sea; and an extension of the rails leads to an anteport (Port Bouet), where a pier duplicates the harbor facilities of near-by Grand Bassam. The location of Abidjan was selected with an eye to cutting the bar at the Bottomless Pit (Fig. 4), a submarine notch in the

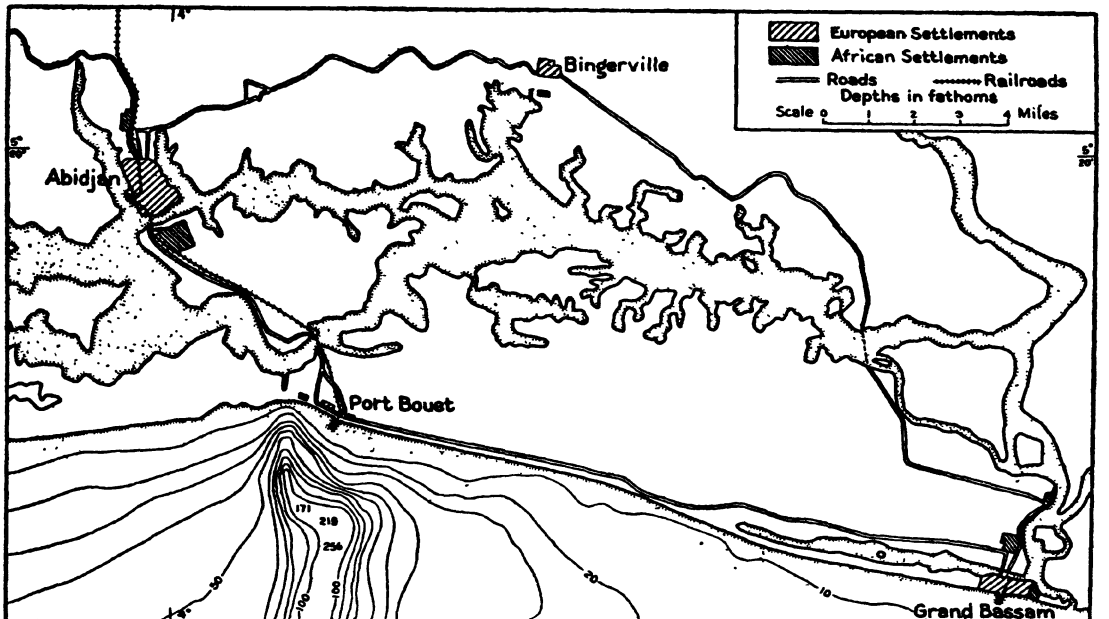


FIG. 4.—Abidjan, government-planned port and capital of the Ivory Coast

shallow shore line—unique phenomenon along this coast of heavy surf and strong currents.

Abidjan has been laid out on a generous plan, with ample parks and with government buildings and bungalows for officials set in shady grounds. Its political predecessor, Bingerville, will disappear into the jungle as soon as the few remaining offices are transplanted to buildings about to be constructed. Grand Bassam still functions, although business is already forsaking it; and the move will be accelerated as soon as ocean vessels are admitted to Abidjan harbor. No improvements are being made. Its remaining stores are shuttered at night with old-fashioned wooden panels, in contrast to the innovation of plate glass in Abidjan's business center. Its unkempt hotel, with an ancient and raucous gramophone grinding out stale tunes, pathetically awaits dissolution; while the new concrete edifice in Abidjan is an up-and-coming social center with jazz band and dancing. In tightly built Bassam, many warehouses and stores are closed and sagging; among the new buildings of Abidjan, yawning open spaces invite the erection of additional stores, residences, and offices.

Inland cities have been only a little less affected than ports by the new transportation. Bobo-Dioulasso, the present terminal of the Ivory Coast railway, is a sprawling amorphous place in which old and new native quarters are interspersed with

tree-shaded French districts and dusty open spaces. The imposing railroad station stands solitary, nearly a mile from the edge of town, a pledge of faith in the future.

Kano, the metropolis of interior Nigeria, is a double town. The British have left the native walled city in appearance much as it was when they arrived. The few changes, however, have been radical: a city water supply to replace wells; dry closets to replace latrines; filling the central pool and the borrow pits; electric lights; erection of modern schools and prisons. A mile outside the gates the railroad station has become the center of a new feature of the landscape, the British settlement, with its stores, banks, administrative structures, and mission, as well as a quarter for Africans from outside—mostly "southerners," who have come up from the coast to take service in homes, stores, and offices. The several functions of the township are segregated, and each has plenty of space for expansion. As a measure of precautionary sanitation, no buildings can be erected in a quarter-mile-wide zone about the British area.[2]

The four centers, Lagos, Abidjan, Bobo-Dioulasso, and Kano, are merely samples of conspicuous alterations in the landscape which Europeans have

[2] [Landscape alterations in Kano are treated in the author's "Kano: A Sudanese Metropolis," *Geographical Review*, XXVII (1937), 139–54.—EDITOR.]

wrought.[3] They are typical of up-to-date procedures. The European population has had to be grafted into the landscape. It is unable to put true roots into this soil, an enervating, disease-ridden environment. Administrators, traders, mine operators, missionaries—the only vocations represented by Europeans—"sit down in the country" as the native phrase has it. Each group occupies quarters owned by its employer. Often these are villas scattered over rolling hills or set in shady compounds which business and residence share.

Alongside each considerable European settlement are quarters for Africans immigrant from other parts of the West African realm—polyglot communities of individuals separated from their tribes and therefore living under direct jurisdiction of the local European administrator. Generally such a quarter is laid out at several hundred yards' distance, to minimize the unpleasant odors, the incessant noise, and the danger of contagion inseparable from African villages. In some places, particularly in mining districts, this immigrant population is temporary. Elsewhere the people may stay all their lives in their adopted towns without merging into the original population of the

[3] Others, with interesting differences arising from site or locus are: Cotonou, which is superseding Whydah and Porto Novo; Takoradi, successor to Elmina and Secondi; Port Harcourt, successful rival of Bonny and Old Calabar; Dakar, heir of St. Louis and Rufisque; and Bamako, racing ahead of Djenné.

vicinity. Desert and Sahel tribesmen regularly move into the Sudan during the dry season, to trade and to pasture their stock. Coastal folk move permanently into the Sudan to hold jobs as clerks and domestic servants to the Europeans. Some Sudanese folk, notably the Haussa of northern Nigeria, are inveterate peddlers, with settlements in every important town of forested Guinea as well as the Sudan, from which they regularly work the surrounding district. Thanks to European planning, the intruded groups generally live in villages with wide streets of gridiron pattern ditched to carry off rain water. The compound, fundamental feature of African domestic arrangements, is preserved. Walls may be of adobe, brick, corrugated iron, flattened gasoline tins, mats, or thatch. Nowhere is the changing quality of the African scene so marked as in these villages for African "foreigners," with their grotesque juxtaposition of indigenous and European, primitive and sophisticated.

Indigenes in direct contact with Europeans have been wrenched out of their traditional, tribal milieu; but they are few compared to the "bush natives," the cultivators and herdsmen who constitute the bulk of the population. Yet, even these folk are being profoundly affected by the intruding whites.

In response to demand, they are growing crops

for export. From a tentative beginning thirty years ago, Gold Coast has made itself the source of much of the world's cacao, supplemented by Nigeria and Ivory Coast. Peanuts, introduced forty years ago, occupy similar pre-eminence, Senegal, Gambia, and the district of Kano being the leading producers. American-type cotton is assuming the scale of big business in the Sudan both south and west of Kano and in parts of French Sudan. Palm oil, bananas, coffee, sisal, and ginger are among the other export crops which have helped remold the agricultural life. The economic revolution has not been confined to the growing of new crops; it has imposed new modes of occupying land.

Native farming in West Africa has traditionally been "shifting cultivation"—the practice of burning off a patch of ground, scratching seeds into the ash-covered earth, and abandoning the land as soon as its fertility fell off, sometimes after the second season. At longer intervals the community, having become inconveniently remote from available virgin soil, abandoned its village for a new site in the bush.

When railroads and motor roads induced the growing of export crops, shifting to new and remote locations became impossible. The several export commodities which grow on trees remained fixed by nature; and peanuts, among the annuals, being self-fertilizing, could profitably be replanted

on the same plots. Thus, shifting has been arrested; and farm villages, as well as commercial towns, are settling permanently upon sites which are satisfactorily connected with the coast. The quickly exhausted soil used for subsistence crops must still be left fallow at intervals, but improved tillage has reduced the fallow period. Where irrigation has been introduced, as notably in the flow land of the Upper Niger, paddy rice has supplanted less intensive food crops. Even the nomads of the Sahel have been affected by the new communication lines. They now have an overseas market for their hides and skins, and a small West African market for meat. Their mode of life has not yet altered, however, as has the farmer's.

INVISIBLE EFFECTS OF THE REMODELED LANDSCAPE

These are the chief visible aspects of an intangible but profound alteration of human society, the detribalization of the migrants and consequent disruption of their indigenous social structure. The French intentionally, the British unwittingly, have impressed upon West Africa a mold of European colonies, north-south in orientation, countering the traditional east-west grain of anthropogeography. The region, fused by these two conflicting lines of force, is in a state of flux. Much of the disruption has been unintended. European officials may have

failed to discover the real social structure shyly lurking behind blatant assumption of power by upstarts eager to ingratiate themselves with the all-powerful newcomers. Much of it has been incidental to contact with the great world which came with political domination and commercial exploitation by occidental trading countries.

New modes of life have slowly but relentlessly welled inland from the coastal zone of first contact. They are inevitable changes; and perhaps most of them are welcomed by the Africans, or, at any rate, resented only sporadically, much as we occasionally resent the airplane and the telephone.

Some of the disruption of the pattern of native life has been deliberate. The missionaries have undertaken to substitute European codes and practices for those native to Africa. Except for the British in the Sudan, where the native administrations were continued in force, European conquest was accompanied by the overthrow of the local self-government and the imposition of European rule. This is a defensible policy, although its success is by no means assured. Trade, here as everywhere, recognizes no social code but profit, although it is somewhat restricted by the political administration—generally for the benefit of the ruling country rather than that of the indigenes.

The ultimate success of European conquest of the low latitudes hinges upon the solution of social,

economic, and at base geographic problems such as those which stand out clear-cut on the map of West Africa. The fluid map is but the expression of a fundamental metamorphosis of society throughout West Africa. This large and productive realm of the Dark Continent is turning its back on its ancient folkways and reorienting itself to the great world which has discovered it. Yet it is not becoming another Europe, differing merely in the color of its inhabitants from the original Europe. Nature is too violently contra-European to permit that outcome. In spite of radically different political techniques, as between British, French, and (formerly) Germans, there is some evidence that the "bush" is shaping all European efforts toward the same end.[4]

[4] [For consideration of European practices and problems see the author's "British and French Colonial Technique in West Africa," *Foreign Affairs*, XV (1937), 362–73.—EDITOR.]

A SURVEY OF THE BOUNDARY PROBLEMS OF EUROPE

By RICHARD HARTSHORNE

A SURVEY OF THE BOUNDARY PROBLEMS OF EUROPE[1]

In their studies of European boundary problems, geographers of different countries present widely different conclusions. After reading these studies, the critical student wonders whether political geography can claim any scientific validity or whether it does not serve simply as a vehicle for national prejudices. Although the different authors take the same facts and reason with them correctly, they arrive at opposing conclusions because they start from different basic assumptions—assumptions which in many cases they do not state and which probably they have never critically examined. Conclusions in any field, of course, have no validity unless the assumptions are sound. The assumptions which underly the present study are stated briefly in the following paragraphs. Demonstration of their validity has been given in earlier writings of the author.[2]

A "boundary problem" may be defined as a dis-

[1] The field observations referred to in this study were made by the author when a Fellow of the Social Science Research Council, 1931–32.

[2] "Geographic and Political Boundaries in Upper Silesia," *Annals of the Association of American Geographers*, XXV (1933), 195 ff.; "Recent Developments in Political Geography," *American Political Science Review*, XXIX (1935), 945–46, 958 ff.; and, particularly, "Suggestions on the Terminology of Political Boundaries," *Mitteilungen des Vereins der Geographen an der Universität Leipzig*, Heft 14/15 (1936),

agreement between the governments or peoples of two neighboring states over the location of the line which separates their territories and, in consequence, their peoples. Based on this definition are four assumptions which are essential to the reasoning in this paper. (1) All political boundaries are man-made, that is, artificial; obviously, they are not phenomena of nature. Consequently, man, not nature, determines their location; we must eliminate, therefore, any distinction between "natural" and "artificial" political boundaries. (2) Any international boundary may be a question of dispute; almost all of them have been so at some time in the past; any one of them may be so again. The degree to which a particular boundary is a problem at any given time, however, is relative. For this study only those boundaries have been considered over which there is now, or recently has been, considerable disagreement. (3) A boundary problem is essentially a human problem, a matter of the thought and the feelings of the peoples concerned. (4) The principal interests at stake in each particular boundary problem are usually of minor importance to the disagreeing countries as a whole in contrast to their vital importance to the inhabitants of the border area who, of course, are most directly affected by the location of the boundary.

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pp. 180–92, abstract in *Annals Asso. Amer. Geog.*, XXVI (1936), 56–57.

This last assumption requires some explanation. To be sure, the interests of the people of any border area cannot be as great as those of the millions of people all over the world who are concerned with maintaining peace in Europe. Yet, in the great majority of cases it is the dissatisfaction of just these "border" peoples that causes the danger of war, rather than their country's lack of a strategic frontier or of "organic" or "harmonic" boundaries. In this study, therefore, attention is focused mainly on the human geography of the border areas and not on the interests of the contending states. This placing of emphasis, it should be noted, does not arise merely from an academic point of view, for it is implicit in current arguments of European statesmen in their claims for disputed areas. Bismarck justified the annexation of Alsace-Lorraine on the basis of historic rights as well as on that of the right of conquest, but today any German claim to those provinces is based largely on the assumption that they are German in character.

Even granted that claims to areas are still being based on "historic rights" or on "the law of conquest," the arguments which are keeping border disputes alive, and therefore dangerous, are now based primarily on real or supposed geographical associations. These associations, as we shall see, may or may not be valid. It is asserted that these associations—whether "natural," ethnographic, econom-

ic, or historical—cause an area to belong justly to a certain state. France may have nearly as strong economic reasons, and much stronger strategic reasons, for desiring the Saar as Germany has for desiring the portion of Upper Silesia which it lost; but in France the Saar question is now a dead issue because the German character of the area was revealed clearly even before the recent plebiscite. Italian scholars have argued that, on the basis of historic rights, Dalmatia belongs to Italy; but even in Italy this argument had little effect until the people were made to think that in language, or at least in culture, Dalmatia was Italian.[3] Likewise, while it may have been the desire for a "strategic" boundary that led the Italian government to place troops in the Brenner Pass previous to the Paris Peace Conference, its public claim was that the Alpine watershed was the "natural" boundary of Italy, a term which implied that it would be going against nature to place the line anywhere else.

Of the geographical associations between areas mentioned in the preceding paragraph, which are valid? First of all, not that of a "natural" unity of a state; for, just as the concept of "natural" boundaries was rejected, so must also the popular idea of a state's "natural" unity. Some German students

[3] According to a statement made to the writer by the Italian historian, Gaetano Salvemini, who distinguished himself by opposing the movement in Italy for the annexation of Dalmatia.

of *Geopolitik* who emphatically deny that the Brenner is a "natural" boundary, nevertheless use such terms as "geopolitically natural region" and "boundaries drawn against nature." Certain German and French students, and also the author, in an earlier writing,[4] have shown the fundamental fallacy in the concepts of "natural unity" and "natural boundaries." Here it is necessary to point out only that any physiographic or climatic association of a border area with a neighboring state does not in itself unite it to that state. In an area of physiographic unity the human characteristics and activities of its various parts may or may not be associated together. If they are, then those human associations are the factors to be considered in any border dispute. This condition cannot a priori be assumed, however. Nor does lack of this unity necessarily result in seriously unsatisfactory conditions. One needs to think only of the American-Canadian boundary along the forty-ninth parallel.

GEOGRAPHICAL ASSOCIATIONS IN BORDER AREAS

The associations which clearly do tie regions together are of three types: (1) the cultural character of the population; (2) local communications, both

[4] "Suggestions on the Terminology of Political Boundaries," *loc. cit.* In addition to Sieger, Sölch, and Maull cited therein the following should be added: C. Vallaux, *Le Sol et l'état* (Paris, 1911), pp. 367 ff.; and Lucien Febvre, *A Geographical Introduction to History* (New York, 1925), pp. 296 ff.

of people and of goods, but chiefly those concerned in the economic life of the areas; and (3) memories and concepts derived from a common past, that is, historical associations.

Cultural associations.—When neighboring districts belong to the same cultural area, particularly in so far as nationality is concerned, they have a strong bond even if they have never been part of the same political area and even if there are natural barriers between them which make communication difficult. The history of the Transylvanian Rumanians is a case in point.[5]

"Nationality," of course, is an extremely difficult term to define. Perhaps we may understand it to mean simply a feeling on the part of the people in any area of more than provincial size that they belong together. Nationality, then, is a feeling of loyalty to a particular country, both land and people. Nationality is generally based on a common culture, and a common culture results, usually, from a common language; but in some cases religion or particular social and political concepts may be the most important factors in determining nationality. The best evidence of nationality is the expressed will of the population itself, when it is known, although even this evidence may not always be conclusive.

[5] R. W. Seton-Watson, *History of the Roumanians* (Cambridge, 1934).

Local communications.—Local communications are affected particularly by the natural character of the border zone. In some cases the degree of transport association can approximately be judged simply from studying the physical map of the area. For a more reliable measurement, however, a count may be made of the number of roads, railroads, and other communication lines connecting the border areas, and an evaluation of the intensity of use of such lines may also be made (see the author's study of Upper Silesia).[6]

Historical association.—When neighboring areas have had a common experience over a long period of time in the same political unit, they inherit common memories and common political and social ideals; these form a strong "historical association" which binds them together.[7] The historical association, however, cannot be measured simply by length of time, for it has less to do with historical records than with the people's thoughts and memories about their past. For this reason the previous century is in most cases of first importance to the people of any period, because they have more thoughts and sharper memories of the recent past than of any other time. Certain epic-making periods, however, unless too remote, may have an

[6] "Geographic and Political Boundaries in Upper Silesia," *loc. cit.*

[7] S. O. Gilfillan has an instructive map on "Duration of Boundaries since 1500" in his "European Political Boundaries," *Political Science Quarterly*, XXXIX (1924), 458–84.

important influence today quite out of proportion to the length of time involved—for example, the French Revolution for Alsace and Lorraine, or the Industrial Revolution for Upper Silesia.

A number of the disputed areas discussed in this paper have been studied by the author in detail in so far as maps were available which showed the cultural, transport, and historical associations. The majority of cases, however, were necessarily reconnaissance studies. To present a full analysis even of the problems studied in detail, however, would require a large number of maps and also far more space than is here available.

An attempt is made in this paper to present conclusions concerning the areas studied in an abbreviated form in the accompanying list or table[8] (see Table 1). Some indication of the relative size or

[8] The figures in this table were compiled from a great variety of sources, particularly the following: Official census reports for Prussia (1910), Poland (1921), Italy (1921); and statistics from the Magyar Statisztikai Közlemények, given by R. W. Seton-Watson in the appendixes to: *Roumania and the Great War* (London, 1915) and *History of the Roumanians* (Cambridge, 1934); William Winkler, *Statistisches Handbuch des gesamten Deutschtums* (Berlin, 1927); and *Statistisches Handbuch der europäischen Nationalitäten* (Vienna and Leipzig, 1931); R. Kjellén (edited by K. Haushofer), *Die Grossmächte vor und nach dem Weltkriege* (22d ed.; Leipzig and Berlin, 1930), Appen.; K. Haushofer (ed.), *Jenseits der Grossmächte* (Leipzig and Berlin, 1932), Appen.; Paul Teleki, *The Evolution of Hungary and Its Place in European History* (New York, 1923), especially the detailed map; *Travaux ethnographiques du Comité d études de la Conférence de la Paix* (Paris, 1919), maps; B. C. Wallis, "The Peoples of Hungary" and "The Peoples of Austria," *seriatim* in *Geographical Review*, 1917–18; J. März, *Die Adria Frage* (Berlin, 1933), pp. 154 ff.; A. Oberschall, *Die Nationalitäten in der Tschechoslovakei* (Prague, 1927), map.

importance of each area is given in this table by the figures for total populations. The number of inhabitants in an area who speak the language of the claimant-state also is given. In the final three columns the geographical associations of the area with the claimant-state are graded in five levels, from A to E. In many cases the ratings are somewhat indefinite because of insufficient data. When the ratings for all three associations are high, that is, A or B, the total geographical association may be assumed to be A or B, or, in other words, predominantly with the claimant-state and not with the state now holding the area. Where the three ratings differ considerably, however, I know of no possible basis for computing a resultant.

The reading of the table may be illustrated as follows: No. 4 in the table is Alsace. This area is now in France, but it is claimed by Germany (that is, by many people in Germany). Of its total population of about 1,219,000, approximately 1,153,000 are German-speaking. Probably a minority of its total population, however, would prefer German nationality to French. Its transportation connections with Germany along and across the Rhine are more numerous and more intimate than those with France across the Vosges. The area has been associated with German areas during the greater part of its history; but during the most important, formulative period of its modern history, from 1789 to 1870, it was a part of France.

TABLE 1

TENTATIVE EVALUATION OF CONFLICTING BORDER CLAIMS IN EUROPE

DISPUTED AREAS (NUMBERED)	NOW IN—	CLAIMED BY—	POPULATION[a] (IN THOUSANDS)		GEOGRAPHIC ASSOCIATIONS WITH CLAIMANT-STATE (RATINGS[b])		
			Total	Speaking Language of Claimant-State	Nationality	Transport and Trade	Historical
	I. WITHIN WESTERN EUROPE						
1. Northern Ireland	United Kingdom	Ireland	1,287	0[c]	D	B–C?	D
	II. CENTRAL EUROPE						
A. WESTERN BORDER OF CENTRAL EUROPE:							
Mediterranean:							
2. Corsica	France	Italy	291	290	D–E?	D	D
3. Nice	France	Italy	....	... .	D–E?	D	C

[a] See n. 8 to text.

[b] The letters rating the associations of the area with the claimant-state represent approximately. A, 80–100 per cent; B, 60–80, C, 40–60, D, 20–40; E, less than 20 per cent (see text).

[c] The most important factor here is religion. Roman Catholics form a minority in northern Ireland.

Franco-Germanic border:							
4. Alsace	France	Germany	1,219	1,153	D?	B	B–D
5. Lorraine	France	Germany	655	481	D?	B–C	B–D
6. Saar	Germany	France	713	1	E	C	E
7. Luxemburg	Independent (Belgium[d])	Germany?	261	250	?	D	B?
8. Eupen-Malmedy	Belgium	Germany	60	47	A–B	B	B
9. Maastricht (Dutch Limburg)	Netherlands	Belgium	Small number	Small number	E	B	D–E
10. Scheldt, south bank	Netherlands	Belgium	Small number	0	E	B–D[e]	E
Baltic:							
11. North Schleswig	Denmark	Germany	160	40	D	C	D
12. Åland Islands	Finland	Sweden	27	19	B	D	D

[d] Economic union but not political union.

[e] Belgium (Antwerp) has the chief interest in the Scheldt Channel, but the local fishing population is associated with the neighboring Zeeland in the Netherlands.

TABLE 1—*Continued*

Disputed Areas (Numbered)	Now in—	Claimed by—	Population[a] (In Thousands)		Geographic Associations with Claimant-State (Ratings[b])		
			Total	Speaking Language of Claimant-State	Nationality	Transport and Trade	Historical
B. Within Central Europe:							
German-Italian border:							
13. South Tyrol	Italy	Austria	250	215	A	B	A
14. Kanaltal (Tarvis)	Italy	Austria	8	6	A	B	A
German-Czech border:							
15. Southern Moravia	Czechoslovakia	Austria	153	133	A	C	C
16. Southern Bohemia	Czechoslovakia	Austria	97	86	A	D	C
17. Erzgebirge, outer slope	Czechoslovakia	Germany	98	97	A	A	D[f]

[f] Though a part of the Bohemian kingdom since the Middle Ages, this area was at the same time associated with German areas in the Holy Roman Empire and since 1526 in Austria. It has never been part of modern Germany.

18. Sudetes, all outer slopes	Czechoslovakia	Germany	706	583	A	B	D[f]
Lausitz-Riesengebirge area (Bohemia)			396	357	A	A	D[f]
Altvater area (Silesia)			195	192	A	A	D[f]
Troppau-Hultschin area (Silesia)			115	34	C–D	C	B
19. "Inner slopes," contiguous	Czechoslovakia	Germany	1,658	1,492	A	E	D[f]
"Islands"	Czechoslovakia	Germany	185	117	B	E	D[f]
C. Eastern Border of Central Europe:							
Borders of German expansion:							
20. Memel	Lithuania	Germany	141	72	A	D	A
21. Southern Masuria (south border of eastern Prussia)	Germany	Poland	212	128	D	B	E
22. Soldau corner (southwestern Masuria)	Poland	Germany	25	9	B?	D	B
23. Danzig	Free state (Poland[d])	Germany	336	328	A	E	B
24. Pomorze ("Corridor"[g])	Poland	Germany	990 939	421[h] 185	C E	D	D .....

[g] The "Corridor" actually includes, in addition, the northern strip of Poznan, which, in 1918, was predominantly German. The total population of the Corridor was almost equally divided between the two nationalities (see n. 18 of text).

[h] The upper figures are from the Prussian census of 1910; the lower, from the Polish census of 1921. German estimates of still later date admit an even smaller number of Germans in these two provinces.

TABLE 1—*Continued*

Disputed Areas (Numbered)	Now in—	Claimed by—	Population[a] (in Thousands)		Geographic Associations with Claimant-State (Ratings[b])		
			Total	Speaking Language of Claimant-State	Nationality	Transport and Trade	Historical
25. Poznan (Posen).....	Poland	Germany	1,973	679[h]	D	D	D
			1,974	346	E	.....	.....
26. Lower Silesia, border districts..	Poland	Germany	26	9	B–C	B	A
27. Upper Silesia, eastern.....	Poland	Germany	893	263	D	B	A
28. Upper Silesia, western	Germany	Poland	1,221	644[i]	D	D	E
29. Teschen or Polish majority districts (border counties).....	Czechoslovakia	Poland	135	62[k]	C	D	E
			76	48	B	D	E
30. Bratislava (Pressburg).....	Czechoslovakia	Austria	89	40[l]	C	B	B–C

[a] According to the Prussian census of 1910. Reliable figures for the post-war period are not available, but certainly the decrease in the number in each minority is not nearly as great here as elsewhere along this border. In German Upper Silesia the number speaking Polish is certainly less than a majority, and most of these are now recorded as speaking both languages.

[k] This number was almost exactly equal to that of the Czechs; there were also 11,000 Germans, who lived chiefly in the town of Teschen.

[l] This number was slightly greater than that of the Magyars, the Czechoslovaks forming the smallest group.

31. Burgenland (Danube River to Mur River)	Austria	Hungary	286	14	E	D	B
32. Burgenland border strip	Hungary	Austria	88	53	B	B	D
33. Klagenfurt Basin	Austria	Yugoslavia	71	50	C	D	E
34. Miestal (southeast of Klagenfurt)	Yugoslavia	Austria	17	3	D	?	B
35. South Styria (Drava Valley, east of Klagenfurt)	Yugoslavia	Austria	182	54	D	?	B
Borders of Italian expansion:							
36. Julian province[m]	Italy	Yugoslavia	322 310	285[n] 245	A A	B	B .....
37. Fiume	Italy	Yugoslavia	46	16	D	A	B
38. Zara	Italy	Yugoslavia	20	7	D	A	B
39. Dalmatia	Yugoslavia	Italy	400	10	E	E	E

[m] Limited to the area of continuous Yugoslavic majorities and so excludes Trieste, Pola, etc. In the entire Adriatic area acquired by Italy, which has a population of about a million, the pre-war Austrian census showed a small Yugoslav majority, the Italian census of 1921 a small Italian majority.

[n] The upper figures are taken from the Austrian census of 1910; the lower figures, from the Italian census of 1921.

TABLE 1—*Continued*

Disputed Areas (Numbered)	Now in—	Claimed by—	Population[a] (in Thousands)		Geographic Associations with Claimant-State (Ratings[b])		
			Total	Speaking Language of Claimant-State	Nationality	Transport and Trade	Historical
	III. WITHIN EASTERN EUROPE						
A. Balkans:							
40. Serbo-Bulgarian border districts	Yugoslavia	Bulgaria	Small number	Majority	B	D	B
41. Serbian Macedonia (Upper Vardar valleys)	Yugoslavia	Bulgaria	900	633 or 0[p]	?	D	D
a) Albanian portion	Yugoslavia	Albania	?	137	B	D	D
42. Greek Macedonia	Greece	Bulgaria	800	[p]	E?	D	D
Greek Macedonia	Greece	Yugoslavia	.....	[p]	D?	E	D
43. Western Thrace	Greece	Bulgaria	300	23?	E	B	D
44. Southern Dobruja	Rumania	Bulgaria	260	128[q]	B?	?	B

[p] Depending on how the Macedonian Slavs are classified (see n. 30 to text).

[q] The largest of several linguistic groups; the Rumanians were one of the smaller of these.

B. Mid-Danube Lands:							
Transylvania	Rumania	Hungary	2,678	918	D	B	A
45. Transylvania border strip[f] (Szamos River to Maros River)	Rumania	Hungary	700	531	B	B	A
46. Banat, eastern (Maros River to Danube River)	Rumania	Hungary	954	138[g]	D	B	A
47. Banat, western (east of Tisza River)	Yugoslavia	Hungary	630	102[g]	D	C	A
Banat, western (east of Tisza River)	Yugoslavia	Rumania	630	100[g]	E	E	E
48. Backa (Tisza River to Danube River)	Yugoslavia	Hungary	783	330[h]	C	B	A

[f] Limited to the continuous area of Magyar majorities (according to the census by small localities).

[g] No nationality had a majority in the Banat, which was populated by Rumanians, Germans, Serbs, and Magyars, listed in order of numerical importance. There was no area of solid nationality except a Rumanian area in the southeast. The region was so divided that the Rumanians and Serbs, respectively, formed the largest groups, in the parts assigned to their states; but each of these parts included border districts of Magyar majority.

[h] Situation similar to that in the Banat, except that there are few Rumanians. The Magyars constituted the largest group. The Yugoslav census of 1921, however, shows almost as many Yugoslavs as Magyars.

TABLE 1—*Continued*

Disputed Areas (Numbered)	Now in—	Claimed by—	Population[a] (in Thousands)		Geographic Associations with Claimant-State (Ratings[b])		
			Total	Speaking Language of Claimant-State	Nationality	Transport and Trade	Historical
49. Ruthenian-Slovakian-Magyar area (upper Tisza valleys)	Czechoslovakia	Hungary	?	750	B	B	A
50. Western Slovakian–Magyar area (north of Danube River)	Czechoslovakia	Hungary			B	B	A
C. Western Border of Soviet Union:							
51. Eastern Karelia	U.S.S.R.	Finland	200	?	B	E	E
52. Estonian border districts	Estonia	U.S.S.R.	Small number	Majority	B	?	B
53. Latvian border districts	Latvia	U.S.S.R.	Small number	Majority	B	?	B

54. Northeastern Poland. . . .	Poland	U.S.S.R. (White Russia)	1,450	800	C	?	B
a) Vilna area..... . ..	Poland	Lithuania	1,275	71?	D–E	B?	B?
55. Southeastern Poland.....	Poland	U.S.S.R. (Ukraine)	5,850	3,475	C	?	B
56. Bessarabia.....	Rumania	U.S.S.R. (Ukraine)	2,629	386	E	C	B

The essential conclusions of this study on European border areas are contained in the table; and the table, therefore, is perhaps its chief contribution. In the remainder of the paper an attempt is made to explain the development of the general types of problems indicated in the table in the light of the historical geography of the different parts of Europe. In reviewing these problems it has been convenient to recognize three divisions of Europe: (1) western Europe, (2) central Europe (western and central Europe together being the western half of the Continent), and (3) eastern Europe.

WESTERN EUROPE

In the western half of the Continent, the well-marked divides formed by seas and mountains, the early maturity of agricultural populations, and the relative freedom of these populations from invasions from the east, all made possible as far back as medieval times the development of fairly large homogeneous cultural areas. In the islands and peninsulas of the west and north (called here "western Europe"), national states were established in such cultural areas as early as the sixteenth century, and these states have retained approximately the same territory up to the present time.

The history of western Europe is not lacking in boundary problems; but, except along the eastern borders, these problems are now largely of the past.

We tend to forget that the boundaries of this area once were problems, perhaps because when they were finally established they were consequent upon strong natural divides formed by unpopulated or sparsely populated areas—seas, mountains, or rugged, barren land. It was only after centuries of conflict, however, that the developing national states agreed upon these boundaries. The fact that they have now been accepted for three or four centuries has given them added strength, moreover, for in the commercial and industrial development of the modern era they were taken into account as dividing-lines. To this degree they are antecedent boundaries.[9]

Within western Europe there is only one current boundary problem, that of northern Ireland. Because the British attempt to absorb Ireland was successful in the north—but only in the north—it appeared necessary to recognize a division between the two states, but not the natural divide of the Irish Sea. It is not surprising that the Irish are not content with the solution.

[9] The terms "natural divides," and "consequent," "antecedent," and "superimposed" boundaries are defined in the paper on "Terminology," *loc. cit.* For their use by other geographers, see Edward L. Ullman, "The Historical Geography of the Eastern Boundary of Rhode Island," *Research Studies of the State College of Washington*, IV (June, 1936), 86; Stephen B. Jones, "The Cordilleran Section of the Canada-United States Borderland," *Geographical Journal*, CIX (May, 1937), 439–60.

CENTRAL EUROPE

In the more Continental portion of the western half of Europe (called here "central Europe"), there also were fairly well-marked cultural areas in which consciousness of national unity had developed about as early as in the west; but, as is well known, the evolution of national states was hindered until the middle of the last century (1860–71) by the universalist concept of the Holy Roman Empire and by the unique character of the Papal States. In the period when national unification was taking place and international boundaries were becoming stabilized in western Europe, the political map of central Europe disintegrated into a crazy quilt. The boundaries of the many states were constantly reforming, so that even before the World War there were few antecedent boundaries left. Today most of the boundaries are superimposed on well-developed cultural landscapes. In central Europe, consequently, there are few political boundaries of strong historical force.

In spite of the confusion of political units, however, only two major cultural groups developed—an Italian group to the south of the Alps and a German group to the north. A third group of minor importance, the Czechs, occupied an area which cut into that of German culture. But the absence of political unity did permit certain peripheral areas to develop into separate nationalities—

Dutch, Flemish, and Swiss—and certain others to be captured by the well-organized states of France and Denmark. Thus was created a series of problem areas which extended from the Baltic to the Mediterranean. In the east, Austria and Prussia acquired control of non-German areas which proved far too large for them to absorb. The break-up of these areas at the end of the World War resulted in another series of boundary problems.

The late development of national unity is also in large part responsible for a number of boundary problems among the states within central Europe. It postponed the solution of what should have been a relatively easy problem, that of finding a satisfactory political boundary for the German-Italian cultural frontier. Even more important, it prevented the absorption of the Czechs by the Germans, although under any conditions this would have been a more difficult problem than similar ones which were solved in France and Britain.

All of the boundary problems which developed from the historical situation described above are made particularly difficult by the lack of strong natural divides in central Europe. Throughout this area the Alps constitute the only natural divide comparable with those that separate the major portions of western Europe. The forested Mittelgebirge, or low mountains, for example, have proved inadequate as a divide throughout history; and

along the zones of cultural clearage on the west and east there are almost no natural divides of any significance for long distances.

Certain of the boundary problems of central Europe are of such critical importance to the peace of Europe today that they require particularly detailed treatment.

The western border of central Europe.—The political changes that have taken place in modern times, or since about 1600, along the western border of central Europe have effected little change in the language of the peoples, but in some cases they have had marked effect on national consciousness. In the case of the Italian-speaking populations of Corsica and Nice, French nationality apparently was accepted with little question; but, to be sure, Corsica and Nice have not at any time been parts of modern Italy. The situation in Alsace and Lorraine is much more difficult to judge, but most observers think that the majority of the German-speaking population is French in national feeling.[10] Although the Upper Rhine is a weaker natural divide than the Vosges, chance made it the eastern boundary of the area affected by the French Revolution (and also of Napoleonic France), and it

[10] Many German students agree that this was true in 1871 but do not believe it was true in 1918. S. R. Steinmetz, a Hollander, gives an excellent discussion of the question in "Die Nationalitäten in Europe," *Zeit. der Gesellschaft f. Erdkunde zu Berlin*, Ergänzungsheft 11 (1927), pp. 43–47.

therefore became a cultural boundary of great importance.

Unlike France in Alsace, Denmark was unable to win the allegiance of the German-speaking population of Schleswig and Holstein. The present boundary, based on a post-war plebiscite, corresponds closely to the linguistic divisions and conforms to the interests of the inhabitants about as closely as can be hoped for in a lowland border area where there are no natural divides.

An entirely different situation exists in the Saar and in Eupen-Malmedy. In neither case was there any important historical association with any country other than Germany. It is only a slight exaggeration to say that here the peace settlement introduced problems where essentially none had existed. Fortunately, the peace settlement also provided for the correction of the more serious of them through the plebiscite of 1935. That the Saar was not a genuine problem in 1918 is shown clearly by the fact that the whole question is already almost completely forgotten in France.

Borders within central Europe.—The problem of South Tyrol boundary illustrates perfectly the way in which the false concept of "natural" boundaries leads to erroneous conclusions. The watershed through the Brenner Pass is not a major trade divide; is not the best strategic line of defense for Italy; has never been a linguistic or cultural divide,

and before 1919 never functioned as a political boundary—even of the local county of Tyrol.[11] The pre-war boundary between Austria and Italy was undoubtedly located too far to the south, even though it had some historical basis because it had been approximately the boundary of the Holy Roman Empire of German peoples since at least the thirteenth century. Undoubtedly the Paris Peace Conference here missed a golden opportunity to provide what might well have proved to be a permanent solution to a problem that was geographically their easiest. For the linguistic line, which follows a marked divide in local transportation connections, is unusually clear in this area.[12] Consequent upon this divide, the boundary between the German county of Tyrol and the Italian bishopric of Trentino changed but little from the days of Charlemagne to the Austrian annexation of the Trentino a century ago. It is, therefore, a notable example of an antecedent boundary.

The most important boundary problems of central Europe, however, are those between Czecho-

[11] Johann Sölch, *Die Auffassung der "natürlichen Grenzen" in der wissenschaftlichen Geographie* (Innsbruck, 1924), pp. 49–51; and "The Brenner Region," *Sociological Review*, October, 1917, pp. 1–17.

[12] There is little disagreement between the Austrian census of 1910 and the Italian census of 1921 or among the findings of competent geographers on both sides. See O. Marinelli, "The Regions of Mixed Populations in Northern Italy," *Geogr. Rev.*, VII (1919), 129–48; and the fine, detailed maps by Hans Schwalm in "Volks- und Kulturboden in Tirol," *Handwörterbuch des Grenz- und Auslanddeutschtums*, Band I (Breslau).

slovakia and the two German states, Germany and Austria. Although Czechoslovakia was created to give independence to the Czech people, the frontiers of that nationality were ignored in favor of ancient historical boundaries. On the northeast, in Silesia, the present line is not quite two centuries old; but elsewhere it follows approximately the boundaries of the old kingdom of Bohemia, and these boundaries have not been changed for nearly a thousand years.[13] The maintenance of the historical boundary, regardless of the linguistic frontier, might seem similar to the case of Switzerland, to which country Czechoslovakia is often compared. But in this, as in other respects, the historical development was almost the reverse in the two countries. Whereas Switzerland remains predominantly German in character, as it was from the beginning, Bohemia was changed from a state dominated by Germans to one dominated by Czechs. This destroyed the political association which its peoples had had in com-

[13] The Treaty of St. Germain made only three small changes in the boundaries of the Bohemian crownlands, all to the advantage of Czechoslovakia. A salient in the upper Luschnitz Valley, near Gmünd, was shifted from Lower Austria to Bohemia; the Feldsberg district (near the March River), from Lower Austria to Moravia; and the Hultschin district, from Prussian Silesia to Czechoslovakian Silesia. The inclusion of the two small Austrian districts, each with a population of only about ten thousand, mostly Czechish, somewhat improved railroad connections in Czechoslovakia. The transfer of the Hultschin district was more or less an accidental result of the larger conflict over Upper Silesia. Of its population of nearly fifty thousand, the great majority spoke a Moravian dialect.

mon, membership in German states, whether the medieval German Empire or modern German Austria. As a result of this change, the political boundary of Bohemia, though essentially unchanged in location, is greatly changed in character: instead of being a line separating the German inhabitants of two German states, it is now a line separating the German inhabitants in a Slavic state from those in two German states.

In major part, difficulty in establishing a boundary was inevitable. The mountain rim which girds the Bohemian and Moravian basins on three sides may have served to protect this western peninsula of the Slavic lands from being overwhelmed in the German *Drang nach Osten;* but the cultural divide between the Czechs and the Germans is not in the highlands, for these highlands were settled first by the Germans. Consequently, the German areas on the inner side of the highland rim have economic-geographic associations with the Czech lowlands. Furthermore, the political boundaries of Czechoslovakia (which were the boundaries of pre-war Austria) do not correspond to the natural trade divides in the highlands. For long distances the political line lies either far down the outer slope of the mountains, cutting across numerous outward-leading valleys, or, as in the Silesian portion, beyond the mountains in the plain. Therefore, these border districts could have made economic and

cultural affiliations more easily with Germany than with Czechoslovakia, even though they have never been part of the modern German Reich.

These German areas in Czechoslovakia are shown on the accompanying map (Fig. 1). One of them, in the Erzgebirge, may be seen to be only a narrow strip; but it has a population of nearly 100,000.[14] More important are the areas in the Sudetes Mountains, on the northeast. The boundary here, which dates from the Silesian wars of the eighteenth century, shows, even after two hundred years as the boundary between Prussia and Austria, specific characteristics of a line absurdly superimposed on a well-developed rural landscape. In connection with a study of Upper Silesia, the author examined the Altvater portion of this area in detail.[15] It was found that the boundary between Czechoslovakia and Germany in this area is cut by a far greater number of roads and railroads than the old provincial boundary between Silesia and Moravia within Czechoslovakia. But an even clearer divide in local communications than this provincial boundary may

[14] Note the extraordinary salient of Asch, which has a solid German population that is larger than the total German minority now living in Danish Schleswig. The figures are based on the Czechoslovakian census of 1921; they differ only in minor respects from those of the pre-war Austrian census (Oberschall, *op. cit.*).

[15] "Geographic and Political Boundaries in Upper Silesia," *loc. cit.* Figs. 8 and 9.

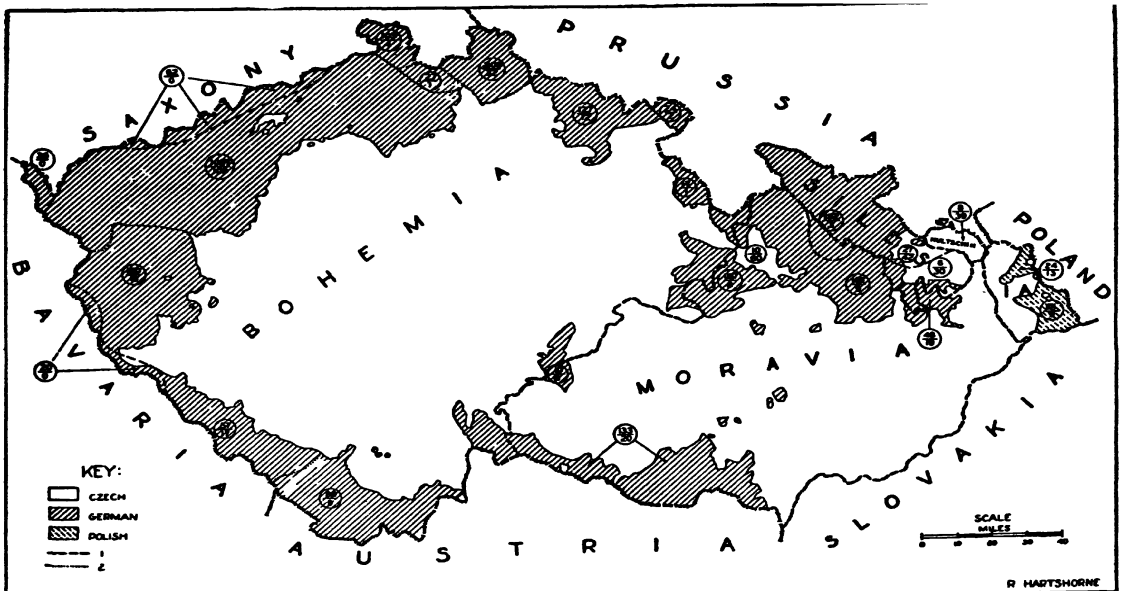


FIG. 1.—Linguistic map of western Czechoslovakia (after Oberschall). The areas predominantly German (or Polish) in speech are shaded. The figures represent the population in thousands—the upper figure the Germans, the lower the Czechs, according to the Czechoslovakian census of 1921. In the two Polish districts of Teschen, the upper figure represents the Polish-speaking population; the lower, the Czechish. The heavy lines mark the international and the provincial boundaries.

1, natural trade divides which generally follow the mountain crests and separate the "outer" and "inner" areas; 2, dividing-lines of the "inner" areas. The Hultschin district is the only part of Czechoslovakia that was part of Germany before the World War.

be drawn (marked "1" on the map). This divide, which in large part follows the watershed, would, if used as an international boundary, correspond far more closely to the economic and national interests of the local population than the present boundary. At the same time it would provide both countries with a fairly effective defensive frontier.

The belt of German population in southern Moravia is not separated from Lower Austria by any important physical features, nor was it separated by any economic barriers for many centuries. Today much of it could be associated as readily with Vienna as with Brünn and Prague. The German area on the inner side of the Bohemian Forest, in southern Bohemia, however, is separated from Austria by the mountains.

If the areas outside the mountain walls be subtracted, the remaining German areas in Czechoslovakia include two-thirds of its German population. These areas are intimately associated, geographically, with the Czech lowlands. Presumably, no major part of them could be taken from Czechoslovakia without causing its collapse. Consequently, if an independent Czechoslovakian state is to exist, it necessarily must include a German minority of at least two millions.

The eastern border of central Europe.—The break-up of the non-German portions of the empires of Prussia and Austria resulted in a series of boundary

problems that is almost continuous from the Baltic to the Mediterranean (see table), or, rather, it converted a series of internal problems into border problems. Border problems receive wider publicity than internal problems; but the latter, though less well-known, may affect the daily life of a greater number of people than the former.

The problem areas in this zone differ considerably from all those previously considered in this study in their lesser degree of maturity—in settlement, economic development, national consciousness, and political organization. For this reason political changes here lead to rapid changes in culture not known farther west. Furthermore, these areas show a much greater mixture of cultural groups through a wide border zone than any other of the areas considered so far. Throughout this belt there are almost no natural divides that separate the Germans and the Italians on the west from the Slavs and Magyars on the east. This is true not only in the northern plain but also in the highland areas farther south, where the trend of the mountains generally is transverse to the linguistic divisions. Centuries of Germanic expansion in these relatively undeveloped lands have resulted in a frontier zone that is extremely mixed, as well as in many "islands" of German culture far beyond the limit of continuous German settlement. The Germans claim that the superior development in agri-

culture, industry, and education that their rule brought to these areas has made them actually a part of the "German culturelands," even though the inhabitants are unaware of this and continue to speak Slavic. I know of no way of evaluating this claim, but the rapid withdrawal of Germans from the territories ceded to Poland (except Upper Silesia) would seem to indicate that the "German character" of these lands was relatively superficial.[16]

The major problems on the eastern border of central Europe are those of Germany's eastern frontier, chiefly those concerning Poland. First, however, the unfortunate problem of Memel might be mentioned. I call it unfortunate because it is the one important area taken from Germany and given to another state (Lithuania) in which the majority of the population was nationally German and would still wish to return to Germany.[17] Moreover, here, as in Upper Silesia, one of the few antecedent boundaries of long standing in Europe was destroyed by the peace conference.

[16] Statistical studies, by German students, of the German exodus during the post-war years indicate, in my opinion, that in greater part the emigration back to Germany was voluntary, even if we accept the many incidents of persecution (Hermann Rauschning, "Die Entdeutschung Posens und Westpreussens," *10 Jahre Polnischer Politik* [Berlin, 1930]).

[17] Werner Horn, "The Will of the People in the Memel Territory," *Petermann Geographische Mitteilungen*, No. 4 (1936), pp. 97–103, maps.

Along the German-Polish border one needs only to glance at the ethnographic map to know how impossible it would be to establish "just" boundaries between the areas of German and Polish people.[18] East Prussia[19] and the Vistula Delta are unquestionably German; but they have always been separated from the main German area by the predominantly Slavic province of Pomorze, even though before 1921 a German "bridge," connecting the main German area with that of the lower Vistula, could be traced along the wide glacial valley of the Netze. The German population in the bridge has now largely disappeared; the "Corridor" has become thoroughly Polish. But in this problem the real issue is the independence of Poland; any responsible Polish government must regard the retention of this corridor to the sea as the *sine qua non* of an independent Poland.

[18] This is clearly shown on maps made by both German and Polish geographers, although these maps differ considerably because of the tendency to color the uninhabited forest patches according to national bias. I have discussed this question in detail, using a map which leaves such patches blank, in "The Polish Corridor," *Journal of Geography*, XXXVI (1937), 161–76.

[19] The Masurians in the southern part of East Prussia (including the Soldau corner which is now in Poland) speak a Polish dialect but have been associated with German rather than with Polish areas since the time of the Teutonic Knights. It was perhaps for this reason that they voted pro-German in the Allenstein plebiscite. The reason more commonly given, that they were Protestant in religion, is erroneous, as the great majority are Roman Catholic (*Statistisches Jahrbuch des Königreichs Preussen, 1912*, Tafel 17).

Even more confusing than the problem of the Corridor is that of Upper Silesia, i.e., the up-river portion of the Silesian plain which Frederick the Great took from Austria in 1742. It was originally a poor, sandy-soiled, forested region that functioned as a natural divide of minor degree between the German area of Lower Silesia and Little Poland. But as a result of its lead, zinc, and coal deposits, it became during the nineteenth century a highly developed district of dense population which was continuous with a similar but smaller district on the Russian-Polish side of the boundary. Nevertheless, its antecedent boundary was a stronger separating factor than most natural divides—but it was not quite strong enough. Although the population was becoming increasingly Germanized up to the time of the World War, the majority still spoke a Polish dialect in spite of the fact that the area had not been a part of Poland for six hundred years. Moreover, national interests were confused with social interests, because in large part the workers were Poles and the owners and managers were Germans.[20] This sociological situation increased the confusion of nationality interests; consequently the voting in the plebiscite, particularly in the industrial district, was divided more

[20] An excellent study of the historical and sociological background of this conflict is given by William J. Rose in the first half of his *The Drama of Upper Silesia* (Brattleboro, Vt., 1935).

clearly along class lines than geographical lines. Nevertheless, a division of the area could hardly be avoided, because, while Germany won a majority of the total vote, some circles (counties) voted for Poland by large majorities. Because of the confused geographical distribution of the votes, a "just" division was obviously impossible.

The final decision as to the line of division, which may have been influenced by the bitter and bloody fighting following the plebiscite, superimposed a boundary across the industrial district itself. Field study has shown how this boundary disrupted industrial connections and transportation and electric and even water lines; even now, it constantly interferes with the daily work and social life of half a million people.[21] Moreover, current dispatches indicate that these personal difficulties will be greatly increased after the expiration of the Geneva Convention this year.

I do not wish, however, even to imply an opinion as to the wisdom of this "Solomonic" decision. Certainly the predictions of fatal results by many observers have proved to be exaggerated. Comparisons of economic structures with biological organisms are always of doubtful validity; if any such comparison can be made here, it must be with the

[21] "Geographic and Political Boundaries in Upper Silesia," *loc. cit.*; and "The Upper Silesian Industrial District," *Geogr. Rev.*, XXIV (1934), 423–38.

more primitive organisms. When they are cut in two, there may be bleeding of both parts, but neither part dies. In time the necessary adjustments are made, the two parts live on.

In the case of Upper Silesia, the necessary economic adjustments have already been largely effected, and any further changes would tend to disrupt these adjustments. It will take longer, and it will be much more painful to make social adjustments; but, given time, man can accommodate his life even to the most illogical political boundary. This is not to say that the Geneva decision of 1921 was the best possible. Probably it could be demonstrated that either of two other lines would have been less disrupting and would have lessened the total number of minorities. But, given the limits set at Geneva, the boundary commission in the field did an extraordinarily fine job, in spite of exceptions in a few now famous cases, although theirs was the most difficult task, surely, of any such commission in the peace settlement.[22]

Teschen Silesia, located immediately to the south of Upper Silesia, had been an Austrian area before the World War; after the war it was divided between Czechoslovakia and Poland, but not until

[22] As this statement is contrary to most of the literature on the subject, it should be noted that it is based on a detailed study of the entire line, including field observation of every part of the line where it runs through the industrial district.

there had been some bitter fighting between the two Slavic groups. Although the division approximately followed the ethnographic line, two small Polish districts were included in Czechoslovakia which have since constituted a frequent cause of difficulty. The division of the central town of Teschen is of special interest, although the problem it created is only a small one. The new boundary follows a small stream which the town straddles—a striking case of a superimposed boundary. Although this stream would have to be classed as a "natural" boundary by those who use the term, this "natural" boundary is, in fact, one of the most disrupting in Europe.

The problem of the border between Austria and Hungary and the problem of Austria's claim to Bratislava (Pressburg, formerly in Hungary, now in Czechoslovakia) result from the fact that the area of German settlement overlapped the boundary into Hungary. The Austrian government had never attempted to adjust this boundary on a nationality basis, because since 1526 it had been an internal boundary within the Habsburg monarchy and any attempt to change it might have had very embarassing consequences for the imperial government.[23] The post-war decision, based on an indecisive plebiscite, drew a boundary which is partic-

[23] George A. Lukas, "Der burgenländische Raum," *Zeitschrift für Geopolitik*, VIII (1931), 608–18.

ularly unsatisfactory from the economic point of view.[24]

In the southeastern Alps, German rule of nearly a thousand years brought Slavic districts into the realm of western European culture. Nevertheless, the German claim that the Slovenes prefer to remain in Austria in order to retain this association was not demonstrated by the Klagenfurt plebiscite. A distinct majority of the Slovenes voted for Yugoslavia, although there was a large enough number of Germans in the area to give a majority of the total vote to Austria. Had plebiscites been held in near-by districts (which were given to Yugoslavia without a vote), and had the division of the Slovene vote been the same, these districts would each have cast majority votes for Yugoslavia because of the smaller number of Germans living in them. However, in such areas of mixed and immature national consciousness, a plebiscite cannot be considered as significant as in the Saar or in Schleswig, particularly when the results are close.[25]

[24] Paul Eitler, "Der Kampf um Ödenburg," *Volk und Reich*, V (Berlin, 1929), 69–76; Sarah Wambaugh, *Plebiscites since the World War* (Washington, 1933), I, 271–97.

[25] Although the Saar plebiscite showed that the great majority of the population voted on a nationality basis and not on the basis of more temporary conditions or of economic considerations, these latter factors undoubtedly played a considerable part in the more eastern plebiscites. But even the nationality situation in the eastern districts has changed since the war. Would the Slovenes, who voted for what

At the head of the Adriatic, Italy has taken over the role of imperial Austria. Not only has she obtained a large Slavic area which lies beyond the limit of continuous Italian population (this extends not quite to Trieste), but she claims still more of the Slavic area. This, in spite of the economic problems which she acquired in Fiume and Zara when they were given to Italy and separated from their natural and established hinterlands.[26]

EASTERN EUROPE

Writers have decried the present map of eastern Europe, with its large number of new states and its dangerous boundary problems, in comparison with the simpler map of pre-war days. But these writers should go farther back by a hundred years to the still simpler map produced by the Congress of Vienna when it divided all eastern Europe among four empires. The changes of the World War period simply represent the final and violent phase of a long process of disintegration that had been noted throughout the nineteenth century. This disintegration, which ultimately produced so many small states, was actually caused by the same force which simultaneously was producing larger

was to be a federated kingdom of the Serbs, Croats, and Slovenes, vote now for a greater Serbia called Yugoslavia; and, on the other hand, what would be their reaction to an Austria which might later come under the control of National Socialist Germany?

[26] Josef März, *Die Adria Frage*, pp. 88–90.

units in central Europe, namely, the rise of nationalism as the basis for the political state.[27]

With the recognition of the independent status of many different nationalities, the map of eastern Europe necessarily acquired many new boundaries and therefore as many new problems. These problems are particularly difficult, first, simply because there are so many different nationalities (many of them too small, in fact, to be able to maintain independent states) and, second, because the distribution of these nationalities is extremely confusing. Furthermore, because national consciousness in eastern Europe is of relatively recent origin, the nationality associations fluctuate in many areas and may be very difficult to determine objectively, though they may be, nonetheless, intensely important to the individuals concerned.

In view of the wide expanse of natural regions and also of the even wider expanse of the area of Slavic peoples, it might seem surprising that such a great number of nationalities developed. The differences among the various Slavic tongues are hardly greater than the difference between the *langue d'oïl* and the *langue d'oc* in France—not to

[27] Of the great number of studies dealing with this process in Austria-Hungary, only two need be cited here: that of the Austrian geographer, Hugo Hassinger, in his revision of the chapter on Austria-Hungary, in Kjellén, *op. cit.*, and the masterly study of the Hungarian historian, Oscar Jaszi, *The Dissolution of the Habsburg Monarchy* (Chicago, 1929).

mention Breton or Basque. But certain factors peculiar to the historical geography of eastern Europe combined to split the Slavs into units that are distinct in many cultural aspects even though these units are not clearly separated, geographically, either from each other or from non-Slavic people.

In the first place, the early migrations of the southern Slavs into the Balkans led to their complete separation from the northern Slavs, for the Danube area between them came to be developed by Rumanians, Magyars, and Germans. Later the emigrations caused by the Mohammedan conquests and also Christian reconquests led to resettlements by groups of different culture which, up to the present time, have not been merged but have remained isolated cultural islands. Among these are the Magyar and German settlements in Transylvania and the German, Magyar, Rumanian, and Serb settlements in the Banat of Temesvar, which give the ethnographic map of that region a kaleidoscopic effect.[28] On the other hand, the receding Mohammedan flood left scattered remnants of Mohammedan Slavs as well as the large group of Albanians.

[28] Migrations in the Balkans during the decade from 1914 to 1924 have tended to simplify the picture in Macedonia and Thrace. The migrations resulting from the three wars of this period were no doubt numerically comparable with those of any past period (P. A. Pallis', "Racial Migrations in the Balkans during the Years 1921–1924," *Geogr. Journ.*, LXVI [1925], 315–31).

In the second place, a succession of territorial empires, dominated chiefly by alien rulers, destroyed the prefeudal Slavic states and thereby prevented the survival through the Midde Ages of even the outlines of large national areas comparable to the kingdoms of France and Germany as they existed after the time of Charlemagne. (Poland is, of course, the striking exception; it was not destroyed until late in the eighteenth century.)

In the third place, the great cleavage between the eastern Greek church and the western Roman church was a stronger dividing factor among the Slavic peoples, at least until very recently, than any linguistic division. In addition, the two churches each introduced a different alphabet, so that peoples who speak the same language cannot read each others' writings. As a result of this cleavage, the Croats still fight with the Serbs and the Slovaks and Poles with the Ruthenians and Russians. Finally, the higher standards of economic and social life that have resulted from Prussian and Austrian rule have tended to separate the Czechs from the Slovaks, the Slovenes from most of the Croats and Serbs, and even the western Poles from the eastern Poles.

These factors, then, developed a cultural disunity in eastern Europe which has been kept unchanged by the natural barriers of swamps in the north and the rugged Carpathian and Balkan high-

lands farther south, and particularly by the slight development of transportation facilities in these relatively poor regions.[29] With the exception of the higher parts of the Carpathians, however, these barrier areas are too well populated to function as natural divides. In greater part, cultural disunity was maintained by the absence of the unifying force of established national states; throughout the modern history of western Europe the national state was in itself a very important factor in completing the formation of nationalities. Consequently, the boundaries in western Europe were almost all antecedent to the areas now occupied by the various nationalities, whereas in eastern Europe all the boundaries are necessarily superimposed.

In the Balkan Peninsula, the principal boundary problems result from the conflicting claims of the national states that emerged from the dissolution of the Turkish Empire in Europe. Bulgaria, as the ultimate loser in the three Balkan wars of the period from 1912 to 1918—counting the World War as the Third Balkan War—has the largest number of claims. In several cases, notably in Macedonia, these claims are difficult to evaluate because the

[29] The contrast in transportation development between eastern and western Europe, emphasized by a strikingly sharp division, is shown in Mark Jefferson's valuable map in "The Civilizing Rails," *Economic Geography*, IV (1928), 218; and, in larger scale, on maps of roads and railroads for the area around Upper Silesia in "Geographic and Political Boundaries in Upper Silesia," *loc. cit.*, Figs. 2 and 3.

distinction between Bulgars and Serbs is not clear.[30] The Bulgarian claim to western Thrace, like that of Yugoslavia to the Macedonian coast, is prompted chiefly by a desire for an outlet on the Aegean. The special provisions made for Yugoslavia at Saloniki would indicate, however, that without any boundary change economic outlets can be provided that are satisfactory, at least for peacetime purposes.

In the Middle Danube Basin the boundary problems are the result of the dismemberment of Hungary. It has been the surprising misfortune of the Magyars that, while for centuries they dominated almost this entire basin, which is naturally so well fitted for the development of a single nation, they were not able to absorb the alien peoples of the area.[31] Since there are no clear lines of demarcation between the groups within the plain, any political boundaries there will not only do violence to intimate economic associations but will also necessarily leave large national minorities on at least one side of the line. The Treaty of Trianon seems to

[30] Official Yugoslav sources count the Macedonian Slavs as Serbs, whereas many students hold that these people are Bulgarian in nationality (see H. H. Brailsford, *Macedonia: Its Races and Their Future* [London, 1906]). The question is ably discussed by J. Ovijic "Die ethnographische Abgrenzung der Völker auf der Balkanhalbinsel," *Peterm. Mitteil.*, 1913, I, 115–18, 185–89.

[31] On the intensive but largely unsuccessful efforts of the Hungarian government, during the period after 1867, to force Magyarization upon the minorities, see Jaszi, *op. cit.*, pp. 215–70, 298–378.

have given the territorial rivals of Hungary the benefits of any doubts regarding disputed areas. Strips of the continuous Magyar portion of the plain were cut off: one on the southeast was given to Yugoslavia to improve the strategic position of Belgrade; one on the east was added to Transylvania (Rumania) in order not to separate its highland valleys from the line of market towns and the connecting railroad located on the margin of the plain; one on the northeast was added to Ruthenia (Czechoslovakia) for similar reasons; and one on the northwest was given to Czechoslovakia so that it might have a frontage on the Danube[32]—an advantage that is but little used.[33]

In the great plain of eastern Europe, an area largely included in the former Russian Empire, only the nationalities along the western margin were successful in securing their independence. National movements of other groups, such as that of the Ukrainians, have been suppressed repeatedly by the use of the army and by other methods similar to those of imperial Russia. The Soviet Union is therefore in this sense a territorial empire like its predecessor, and the boundary problems of its vari-

[32] A. G. Ogilvie, *Some Aspects of Boundary Settlement at the Peace Conference* (London, 1922), pp. 13–14, 21–25.

[33] Commission Européene du Danube, *La Commission européenne du Danube et son œuvre de 1856 à 1931* (Paris, 1931); and League of Nations, *Report on Danube Navigation*, submitted by Walker D. Hines, C 444 (a) M 164 (a) 1925 VIII.

ous nationalities remain internal problems which will not be considered here.[34] Along the western border of the Soviet Union, however, the new boundaries drawn during the years following the World War caused a series of problems between that state and its various neighbors. Since the basis on which the Soviet Union is attempting to develop a national state is not that of common culture but of acceptance of certain economic and social doctrines, these border problems are of a different kind from all others in Europe. Thus, the very large Ukrainian population in eastern Poland, though unquestionably a bitterly dissatisfied minority in that state, is divided in its attitude toward the present state of Russia.[35] Thanks to greater concern over more dangerous problems elsewhere, however, the Soviet Union has now finally accepted the *status quo* (which it had challenged for many years) of its entire western frontier. The only current dispute in this area, therefore, is that between Lithuania and Poland concerning Vilna, a region the population of which is largely White

[34] Since the Soviet Union presumably is not continuing the attempt of its predecessor to create a national state of great Russian culture, it can permit its many different nationalities a considerable degree of cultural autonomy. Nevertheless, it does employ much the same methods as did the czarist government in enforcing its control over territories in which the local population would prefer to be independent or to belong to another state.

[35] S. J. Paprocki (ed.), *Minority Affairs and Poland* (Warsaw, 1935), pp. 68–72.

Ruthenian and Polish but in which the historic capital of old Lithuania is located. So bitter is this dispute that the boundary is kept closed, as in war time.

CONCLUSION

Boundary problems are the inevitable attributes of young or immature boundaries; these problems may or may not disappear with age. Since throughout most of Europe there are few boundaries of long standing, it follows that, if Europe is to be divided into separate states, there must be boundary problems. From the more fortunate situation in western Europe we have learned under what conditions the problems tend most rapidly to disappear, namely, when each of the various states concerned has strong cultural and historical homogeneity and close internal economic associations and also when the boundaries dividing the states correspond to divides in these associations. Usually this ideal situation is found only where the boundary is consequent upon a strong natural divide or is antecedent to settlement and development. Except in western Europe there are but few antecedent boundaries to utilize. Moreover, natural divides of the first order are lacking in Europe, and there are only a few of a second order. There are not enough divides even of lesser degree; many of these latter are, in fact, straddled by people of

the same nationality, for example, the Erzgebirge or the Transylvanian Alps.

What compromise should be made? Historical associations readily change with time; in most cases economic associations can be changed; cultural associations, which are primarily linguistic, are apparently the slowest and most difficult to change, especially in long-settled communities. This helps to explain the strength of the national state that is based on a common culture and also the strength of boundaries drawn on the basis of culture, even though the boundaries in other respects may be superimposed.

If we were gods, could we change the present boundaries of Europe so that they would conform more closely to those conditions which we have said make for solutions of boundary problems? In a few places almost certainly: in the Åland Islands, in South Tyrol, along the Italian-Yugoslav border, in parts of the Czechoslovakian-German border, and in several portions of the border of Hungary; in some places probably: in Eupen-Malmedy, in Memel, and in southern Dobruja; in several other places possibly: notably in the Ukrainian portion of Poland, although this change would presumably require an independent Ukraine. In most of the cases listed in this paper, however, any change would hardly improve the situation and might well make matters worse.

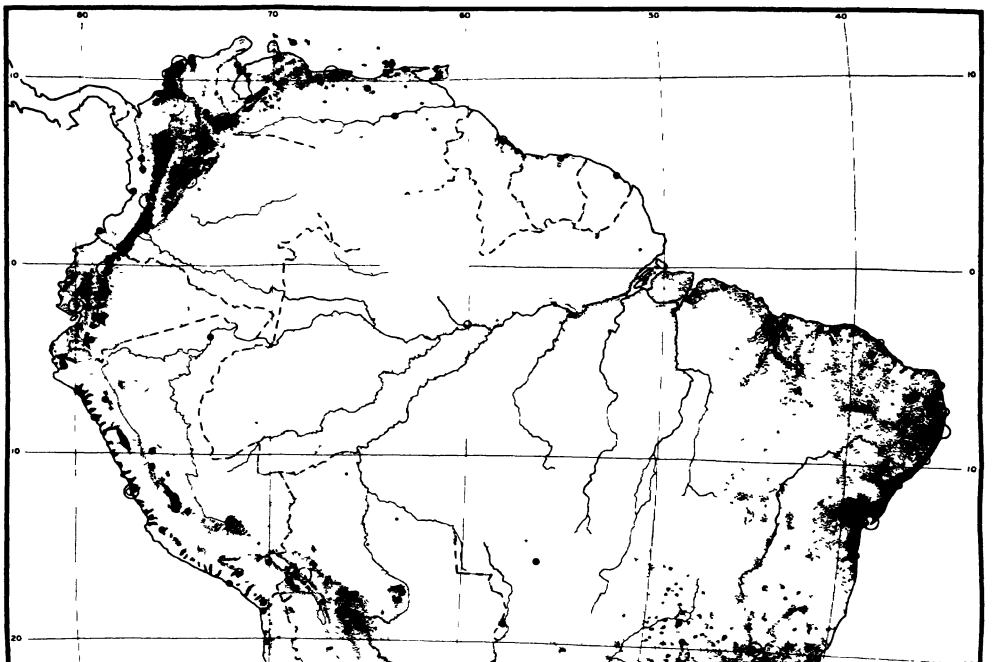
But we are not gods, and in the present primitive state of world-organization apparently only the god of war can change boundaries. Therefore, I make no recommendations for change but merely offer two hopeful conclusions which are based on experiences of daily life during a six months' stay in one of the most bitterly contested districts of mixed nationality—Upper Silesia. The first conclusion is that the national minorities on the "wrong side" of the present boundaries will tend to conform to the nationality of the state in which they live. Although propaganda is effectively used to keep animosities alive, the complications of modern economic life, particularly those of urban occupations, *demand* conformity. Small minority groups will almost certainly conform in the end. Larger groups, particularly where they occupy entire areas, are not likely to change in culture; but their national loyalty can be won if the state in which they live can demonstrate to them, over a course of years, that it can provide distinct advantages not provided by the state of their own culture. Here, it seems to me, lies an opportunity for Czechoslovakia to function after the manner of Switzerland in the past—to demonstrate the advantages of democratic government in contrast to the political systems of surrounding states.

My second conclusion is that most of the local difficulties caused by unsatisfactory boundaries can

be solved without shifting the line itself a foot. It is necessary only that the boundaries be made less important in the daily economic and social life of the border peoples and that the national minorities be treated without discrimination by their government. To make this situation possible, however, the state must first feel confident in the loyalty of the minority; and such confidence can develop only when agitation for change, particularly on the part of the claimant state, is reduced to a minimum. "Psychological disarmament," therefore, as Poland has suggested, is the essential first step toward a solution of European boundary problems.

THE DISTRIBUTION OF PEOPLE IN SOUTH AMERICA

By PRESTON E. JAMES


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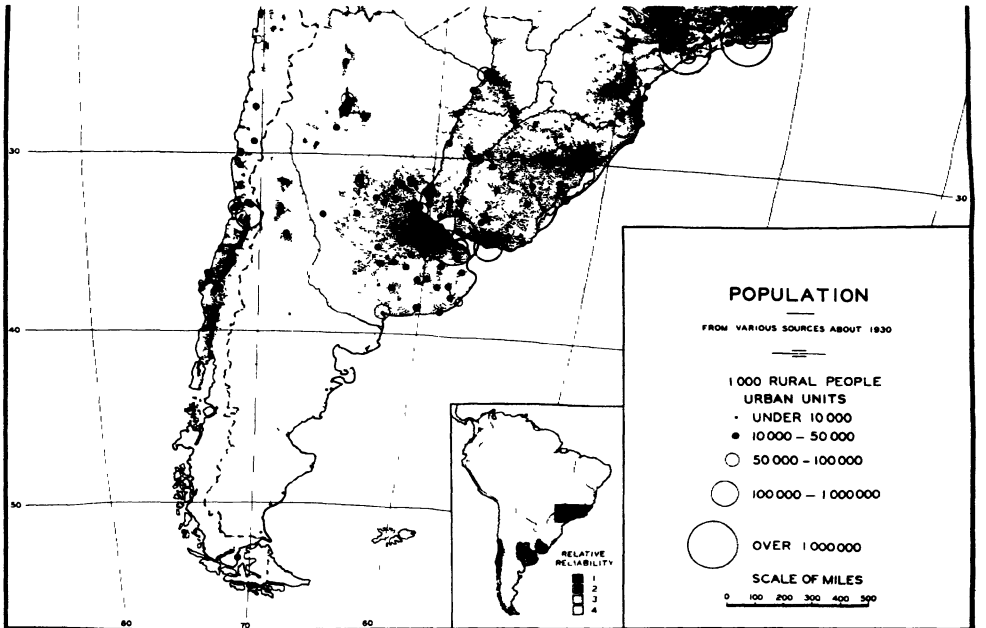
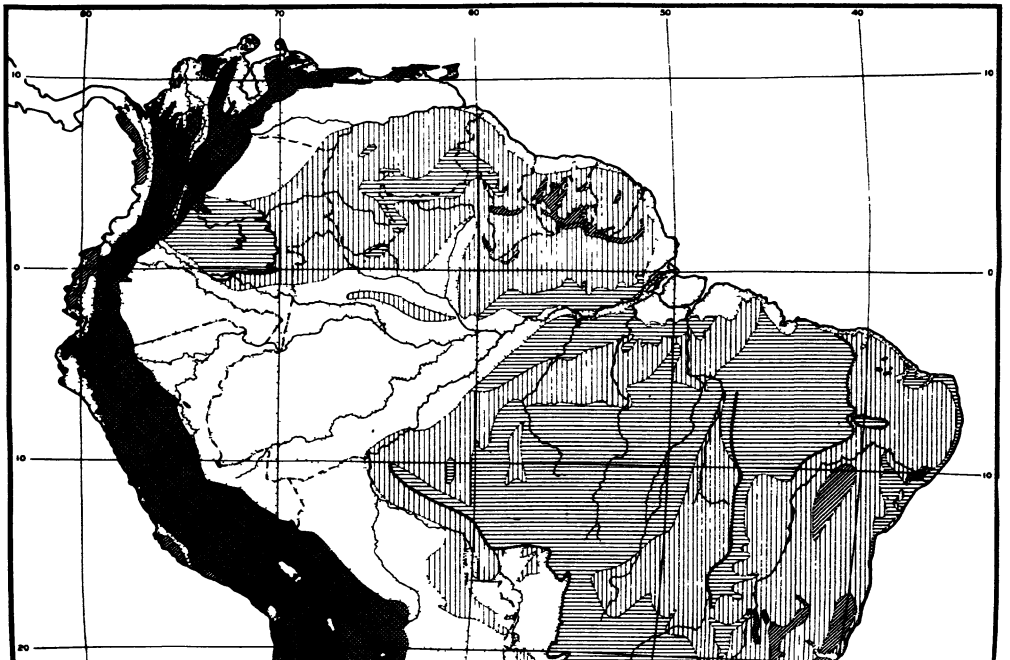


Fig. 1.—Population


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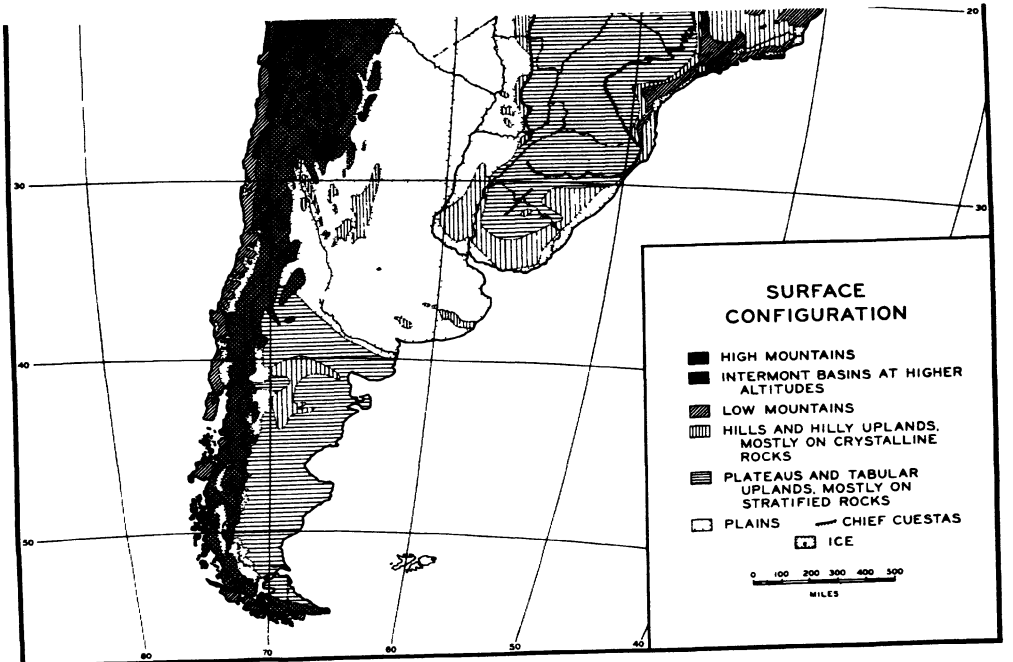
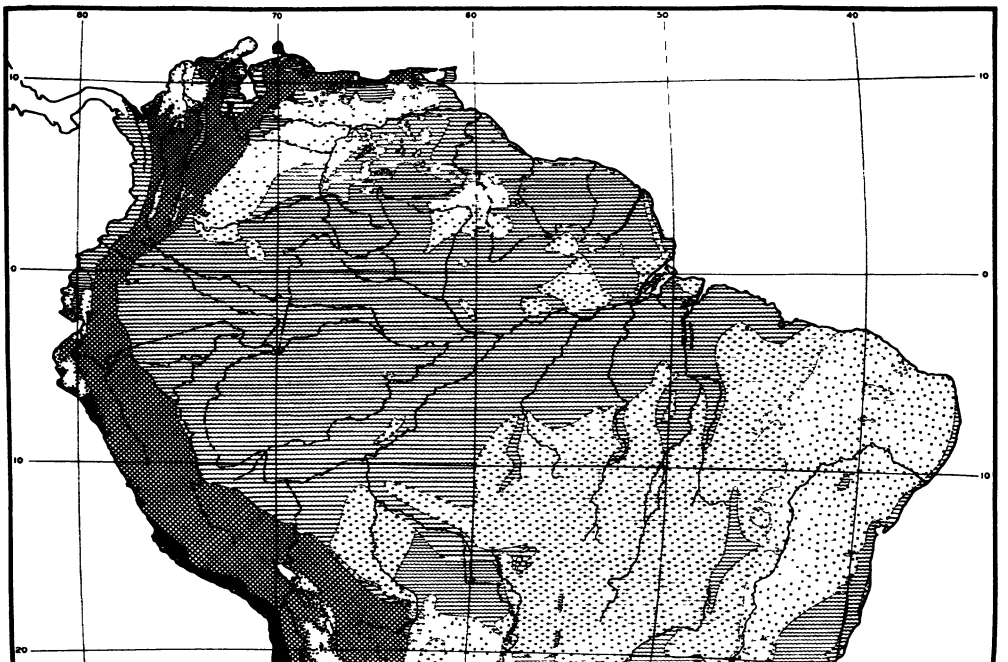


FIG. 2.—Surface configuration


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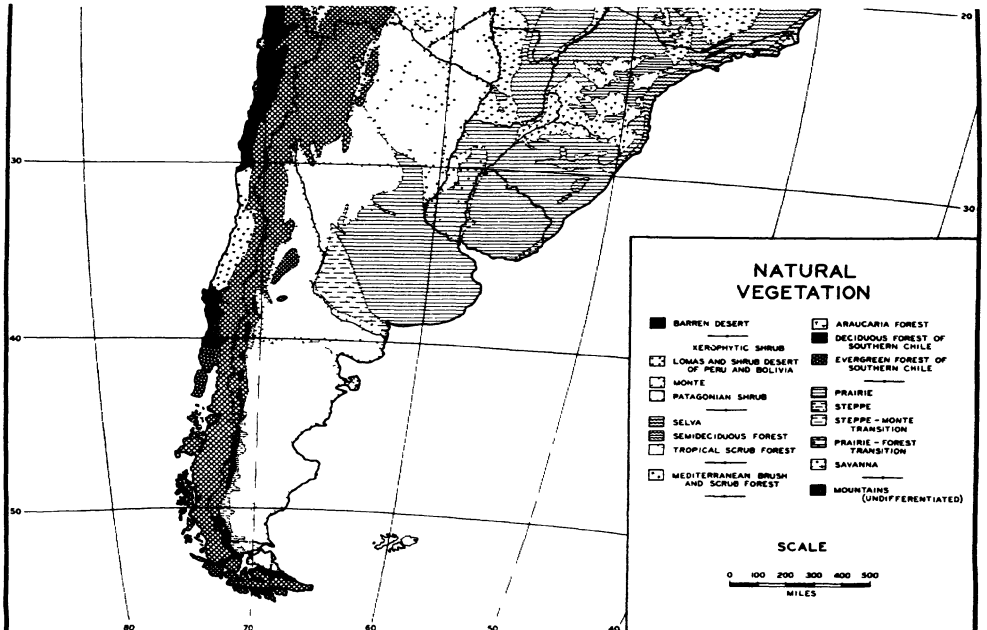
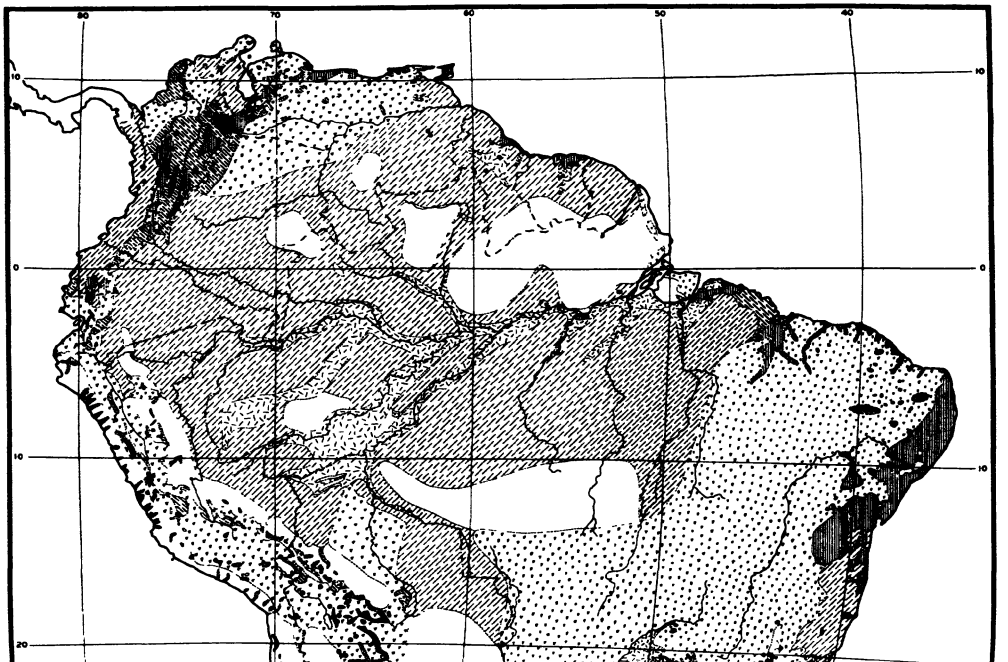


FIG 3.—Vegetation


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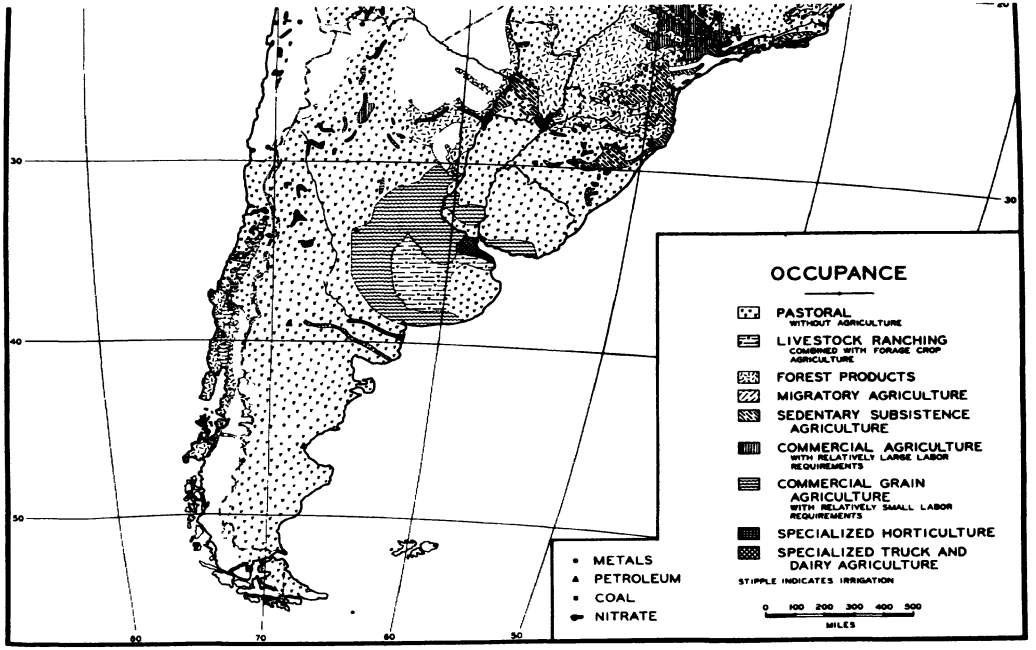


Fig 4.—Occupance

THE DISTRIBUTION OF PEOPLE IN SOUTH AMERICA

Five principal facts characterize the distribution of people in South America. The notable degree to which the population is concentrated around the continental margins is the first of these facts (Fig. 1). This statement, however apparent it may seem on first glance, is one which requires modification in detail, for in a great many instances the population centers are near the coast rather than on it, and in some cases are separated from it by physical obstacles of a major sort. As a matter of fact, of the 31 cities of more than 100,000 population, only 15 are situated on water navigable for ocean steamers. Yet, viewed on a continental map, the arrangement of people is distinctly peripheral.

The second fact characterizing this pattern of distribution is the strongly marked tendency for the development of population clusters, arranged variously around urban nuclei. The density of population in these clusters differs considerably. In parts of middle Chile it is said to exceed 400 people per square mile, and it surpasses 125 per square mile in northeastern Brazil and in the dry-land oases of Peru and Argentina. Many of the clusters,

however, have developed a density of only 10 to 25 people per square mile.

The third fact is that these clusters occupy, for the most part, distinct areas, separated one from another by scantily occupied territory. This third fact is one of great significance, since the means of circulation between neighboring clusters are poorly developed, and each area depends to a marked degree on its connections with a seaport. Only in the vicinity of Buenos Aires, along the coast of northeastern Brazil, and in some of the Andean intermontane basins are the several clusters so closely in contact with each other that they are not clearly distinguishable on the continental map.

The fourth fact has to do with the simple relationship between the population pattern and the political boundaries. Geographers have long pointed to the principle that a distinction should be made between the territory within the political limits of a nation and the territory in which the people live. In most parts of Europe this distinction is of less importance because of the effective occupance of a large proportion of the national domains. In no part of the world, however, is it more important than in South America to make a distinction between total national territory and effective national territory. For example, with this distinction in mind, it is clear that no extension of the boundaries of Bolivia to reach navigable water

could make of Bolivia for many years to come anything but an interior nation. Nor could anyone justify the situation of Bello Horizonte, the capital city of Minas Geraes, near the center of the total political area of that state, when one observes its distinctly off-center position with regard to the effectively occupied territory. Throughout South America the relation of the population clusters to the political boundaries is a relatively simple one, for each cluster forms the core of effective national or state territory, and the boundaries, with few exceptions, pass through the scantily occupied areas which separate the clusters. Only between a part of Ecuador and Colombia and a part of Colombia and Venezuela do the boundaries pass through densely populated areas. This same generalization applies, with certain exceptions, to the states of Brazil.

Finally, it is to be noted that in the several population clusters of the continent a wide variety of relationships is to be observed between the distribution of population and the arrangement of the other elements of the landscapes. In some cases, for instance, the population is closely attached to the river valleys, as throughout the dry areas; in other cases the river flood plains are avoided in favor of the dry ground farther back, as in the state of Maranhão, Brazil. In some cases the population is distinctly attached to the railroad

lines, as in São Paulo state; in other cases there is little correlation between population and railroad lines, as in Bolivia.

THE PROBLEMS

These facts are basic to the discussion of any problem in international relations. It is our belief as geographers that we can provide a realistic background of data established as exactly as possible on maps from which problems within the many fields of social science may be attacked with renewed vigor and greatly increased effectiveness. But we need to know more than the facts of distribution before a real understanding of these distributions is gained. We must know how these patterns came into existence, and, so far as possible, why. We must know whether, as a result, the present pattern is likely to be significantly changed in the near future.

Three general problems, then, can be stated, around which a discussion of the international implications of population distribution in South America can be organized. These problems are: (1) Why is the population of South America arranged in this peripheral pattern of clusters? (2) What is the reason for the separation of the population clusters by scantily occupied territory? Is a significant movement into these unoccupied areas likely in the near future? (3) Why, in marked con-

trast to the situation in Europe, do the national boundaries in general pass through scantily occupied territory?

SUGGESTIONS AS TO THE INTERPRETATION OF THE POPULATION PATTERN

Before turning these problems over for general discussion, a few suggestions may be offered regarding them.

1. Why is the population of South America arranged in this peripheral pattern of clusters?

This pattern is not, of itself, surprising. As Vidal de la Blache points out,[1] the basic pattern of population distribution is the cluster; and population, at least in the Occident, spreads into new areas by sending out new clusters. The typical pioneer pattern consists of isolated areas of settlement, commonly strung along the main pre-existing lines of travel. The Europeans who came to South America, and who are in chief measure responsible, either directly or indirectly, for the present population pattern, arrived by boat from across the ocean. They came upon the continent from the north and east, pouring southward along the west coast from Panama, and establishing pioneer clusters along the main line of travel, namely, the ocean. The early population pattern

[1] P. Vidal de la Blache, *Principes de géographie humaine* (Paris, 1922), pp. 39–40.

on the east coast of North America was at one time similarly composed of a series of peripheral clusters, separated by scantily occupied or entirely unoccupied territory. Perhaps our question may be resolved into this one: Why did the clusters grow together into a closely connected series in North America and fail to do so in South America? The influence of the Appalachian barrier in North America has been described as holding back the westward expansion of population until the clusters had become unified. But there are other factors involved, as a comparison with South America can show. For one thing, the whole flood of European settlement in North America was confined to the coast line from the St. Lawrence River to the Gulf of Mexico, and more especially from Maine to the Carolinas. The larger measure, from the St. Lawrence to the Gulf of Mexico, is only about a fifth as long as the coast line of South America which absorbed European settlement. How very different might the story have been if the entrance to the southern continent by Spanish and Portuguese had been confined to the coast between Cape São Roque and the mouth of the Plata. It is not unreasonable to assume that the clusters might then have grown together along this stretch of coast. This suggests that the peripheral pattern of clusters is by no means a permanent fact, imposed by the nature of the land or by the peculiarities of

the people: it suggests, rather, that this pattern is a primitive one and that, in spite of more than four hundred years of occupance, South America is still a pioneer land.

2. What is the reason for the separation of the population clusters by scantily occupied territory? Is there more to it than simply length of time involved?

The problem of the scantily occupied territory does not admit of a simple attack or a general answer. Predictions of potential population capacity contain so many estimates, so many "things which are not equal," that they are exceedingly dangerous. No regional inventories have been made in sufficient detail to provide the basis for such estimates, important as they are. It does not seem probable that any important advance into the interior comparable to the sweep of North Americans across the United States is likely to take place until a considerably greater density of settlement has been built up along the coast. Only in the northeast of Brazil is such a base in existence; and back of this we have the pioneers of the *sertão*, who, according to Agamemnon Magalhães, have the necessary qualities to undertake the conquest of the interior.[2]

It is impossible, in the time available, to con-

[2] Agamemnon Magalhães, *O nordeste Brasileiro* (Rio de Janeiro, 1936).

sider all the scantily occupied parts of South America. The series of maps (Figs. 1, 2, 3, and 4) indicate the present state of our knowledge regarding these areas. Yet, even if our knowledge were far more complete, we should not be able to derive a formula for habitability in terms of the land alone; the culture of the inhabitants, rather than the facts of the physical setting, is the determining element in setting the limits of occupance. The same land which would provide a "friendly" home for primitive forest-dwellers might seem quite "unfriendly" to commercial-minded Europeans or Americans. The same land which could be effectively occupied by a people willing and able to practice subsistence farming might be very difficult to occupy by a people seeking to produce a money crop.

In the Atlantic drainage area, to which this symposium proposes to give special attention, a wide variety of kinds of lands is to be observed. In the Orinoco Basin and in the northern part of the highlands of Brazil are the vast regions of tropical savanna. From the point of view of occidental cattle ranchers, these lands are among the world's poorest pastoral areas. Plagued with insects, treated with the march of the seasons to all the extremes from flood to drought, and covered with native grasses most of which are inedible and few of which are really nourishing, these regions are

misnamed when they are called "natural pastures." Only high prices can permit the marginal producer to invade these areas except for local markets. In terms of the near future these lands should be counted out as areas of potential population increase.

The tropical-forest regions are not much better, but the difficulties are very different. The alluvial lands of the Amazon Basin, small as they are in proportion to the lowland area outside of the flood plains, could support millions of people. But the millions of people would have to be oriental rice-growers, primarily interested in subsistence and ready to use their own muscles or the muscles of domestic animals as the chief source of power. Political conditions being as they are, such an occupance is out of the question. Occidentals, seeking to raise commercial crops on the poor, leached soils outside of the flood plains, are handicapped by the scanty native population which makes the supply of labor a major problem. There is no likelihood that the Amazon will seriously compete with the tropical lands of the East in the near future. Exploitation of forest resources for temporary gain, giving rise to no fixed patterns of settlement, seems a safe prediction for the next few decades. Even along the east coast and on the eastern margin of the Brazilian highlands, exploitation, rather than fixed settlement, seems to be the rule, whether the

marketable product be sugar, coffee, cacao, or cotton.

The southern states of Brazil present a somewhat different picture. In terms of climate, vegetation, and surface this part of the continent is closely analogous to the Cumberland Plateau of Tennessee and Kentucky. If an agricultural people have found difficulty in making permanent their settlement of the North American region, some doubt might be raised concerning the potential capacity of this Brazilian counterpart for European colonists. Considering that this region has been a center of immigration now for nearly a century, it is rather remarkable that its clusters of population even today remain separated by scantily peopled areas. It is still pioneer land; one of the great problems of Brazil today is the selection of occidental farmers willing to settle on this land and stay there. Colonists are now largely supplied from eastern Europe, but in pitifully small numbers. It is difficult to find people willing and able to occupy the pioneer agricultural lands of the world. Brazil is so anxious to attract such people that the restriction of immigration imposed in 1934 has now been amended to leave the way open for European farmers.

Argentina and Uruguay are facing similar problems, but with very different kinds of land. The rich prairies of Uruguay are still primarily pastoral,

and continue to provide a good living for the landowners who are not troubled by the need for industrial laborers or by the problems which they bring with them. A change in the mode of occupance of this land, which is physically possible, would result in a marked increase of population. Whether Uruguay would be a happier place might be open to question.

The rich grain lands of the Argentine province of Buenos Aires could undoubtedly absorb a vastly larger number of farming people. Such population increase, however, would require a radical change in the land system and would be face to face with the problem previously described of discovering a source of agricultural immigrants. Nor is this region of uniform quality in terms of grain production. Apparently it is varied in its soil character, probably having none of the black soils associated with prairie vegetation in other similar regions. One of the most pressing needs today in the geographical inventory of South America is a modern study of the soils of this region carried out by a competent specialist.

No great population increase is to be expected in the dry regions of Argentina; but an area of considerable interest is to be found in the northern part of this country, extending over its borders into the disputed area of the Bolivian and Paraguayan Chaco. This lowland area may be considered as an

example of a region now scantily populated but likely soon to be invaded by a stream of settlement. This provides us, moreover, with an excellent example of the difficulty of predicting population capacity. Omitting, for the moment, the existence of the large petroleum resources in this area, it is interesting to consider the physical similarity of the Chaco to the plains of the Ganges in India. The climatic conditions of both are quite similar (Köppen's "Cw"; Thornthwaite's "CA'w"); the gently sloping apron of alluvium washed from bordering mountains by great rivers is similar; the original cover of vegetation was probably of the same general category—tropical scrub forest. Yet the population capacity of the Chaco cannot be deduced from conditions in India, for the number of people that can derive support from a region depends to a greater degree on the traditions, technical abilities, and economic status of the inhabitants than on the physical qualities of the land. A rice-growing people, seeking only a subsistence, using their own muscles for power, and attacking the problems of land settlement in great numbers would accomplish things in the Chaco which scattered cattle-raising European pioneers, seeking to pay the way of settlement with a marketable product, could never accomplish. With the exploitation of oil and the development of means of circulation, many immigrants will be drawn to this region—in

the near future, according to Bain and Read.[3] What will take place when the oil period is over remains unpredictable because we do not know what people will be involved or in what kind of an economic world they will be living.

Generally speaking, the physical resources of the continent must be described in superlatives. There are vast prairie lands suitable for the growth of maize and wheat; there are magnificent potential sources of water power; there is the world's longest navigable river; there is one of the world's finest harbors; many of the mineral deposits of South America, such as the Brazilian iron ores, stand among the world's richest reserves. Yet it remains a noteworthy fact that these resources are poorly assorted from the point of view of an occidental industrial and commercial civilization. Compared with the happy combinations of resources in North America, the southern continent presents a very different picture. The rich prairie lands lack any sort of fuel or source of power, except the wind; the potential water-power sites are mostly far removed from possible markets; the world's longest navigable river glides through a vast, empty wilderness; the superb harbor is backed by the steep slopes of an escarpment over which communication with the interior is difficult, whereas the most productive

[3] H. F. Bain and T. T. Read, *Ores and Industry in South America* (New York, 1934).

hinterland of the continent is forced to seek an outlet through an artificial port; the world's largest single reserve of iron ore lies far away from any possible source of coal. Superlatives, yes; but poorly matched superlatives. And when these superlative resources are exploited, it can only be with great difficulty, and therefore only by large-scale operators. The establishment of great numbers of settlers on small units of land in the scantily occupied parts of the continent will not be easy.

3. This brings us, then, to the third problem: Why do the national boundaries, with so few exceptions, pass through this vacant territory?

This seems to be a relatively primitive political pattern, one which has been obscured in Europe by the expansion of population around the various nuclei until the originally distinct clusters of population have grown together at their margins and filled the national territory. Perhaps we need only suppose that four-hundred-odd years of settlement in South America have been insufficient to permit the process of expansion to bring the effective national territory into closer harmony with the total national territory. It is interesting to note, however, that the difference between effective and total territory is just as important in the case of diminutive Paraguay as of colossal Brazil. Only Uruguay is beginning to erase this distinction.

Perhaps, however, there are other factors in-

volved than mere time. Europe has witnessed a notable succession of modes of occupance during the long history of its settlement. Each wave of migration has brought in people with different traditions, different technical abilities, and consequently people who have sought to attach themselves differently to the varying qualities of the land. Excepting in deserts or in mountains, the clusters of population established by one culture do not necessarily occupy the same positions on the land that the clusters established by another people would occupy. Finally, in Europe, the rise of industrial communities has superimposed on the established pattern of population an entirely new series of clusters, in many cases established on sites which were neglected by the earlier agricultural people. Geographers describe this succession of different ways of living on the land by the term "sequent occupance."

South America, in contrast to Europe, has had a relatively simple history of sequent occupance. Throughout the four-hundred-odd years of European settlement in South America, essentially the same modes have governed the process of living on the land. Furthermore, industrial growth has come only very recently and is mostly confined to the vicinity of the large urban markets, located, therefore, near the centers of the long-established clusters of population. There is no sign in South

America of the growth of a Ruhr or a Silesia to complicate the elementary relation of population to political boundaries. Of course, there are no coal fields inconveniently located beneath established boundaries to lead to such complications. Nor is it likely that new industrial clusters will appear separate from the existing centers of population, because the chief markets for manufactured goods will remain, for some time to come, among the urban populations.

There are many other problems which these maps suggest. There are problems of habitability in terms of colonization by various kinds of people; there are problems involving the exploitation of resources such as those of the Gran Chaco; there are problems involving the competition for markets and trade. Fundamentally, these must be attacked through geographical knowledge of such elements as population distribution (Fig. 1); surface configuration (Fig. 2); the natural vegetation (Fig. 3) and its climatic background; and the present uses of the land and lines of circulation (Fig. 4). The raw materials for a discussion of these points are presented herewith.

NOTES ON THE CONSTRUCTION OF THE MAPS

The four maps which accompany this paper have been newly compiled from a variety of sources. The general inadequacy of the information regard-

ing distribution patterns in South America hitherto has made the construction of maps in such detail as these impossible. A wealth of new data, however, mostly published since 1930, makes the effort now worth while, although the resulting maps are by no means uniformly reliable. In certain areas modern field investigations provide material as accurate as in any part of the world; but vast areas of the continent are described only in terms of the traverses of explorers, and the descriptions of the same area differ widely in the different reports. The present distributions, then, must be considered as tentative and subject to revision. The maps were all compiled on the base map of Hispanic America, on a scale of 1:6,000,000, published in 1922, and since revised, by the American Geographical Society of New York.

The map showing surface configuration attempts to portray the character of the surface by showing the arrangement of different kinds of land rather than by showing altitude alone. The common hypsometric or altitude map is notoriously inadequate for this purpose, as mere altitude above sea-level does not define the contrast between plains, hills, and mountains. The following categories are recognized:[4]

[4] This map is revised from "The Surface Configuration of South America," *Papers of the Michigan Academy of Science, Arts and Letters*, XXII (1936; published 1937), 369–72; the categories of surface type

1. *Plains.*—Areas low-lying with reference to neighboring territory and with a local relief (within 25 square miles) of not more than 300 feet.
2. *Plateaus.*—Areas which stand distinctly above neighboring territory at least on one side, and with a large part of the total surface at or near the highest level. Generally underlain by stratified rocks.
3. *Hilly uplands.*—Areas with a local relief (within 25 square miles) of more than 300 feet, and less than 1,000 feet. Generally underlain by crystalline rocks.
4. *Low mountains.*—Areas with a local relief of more than 1,000 feet and less than 3,000 feet. Generally massive crystalline ranges or old worn-down mountains.
5. *High mountains.*—The Andes. Areas of young, rugged mountains, generally rising to sufficient elevation above neighboring territory so that there is a conspicuous vertical contrast in the vegetation types.

The map showing the natural vegetation (Fig. 3) makes use of categories which correspond to those previously described and mapped by the author.[5] In the preparation of this map the basic reference was to the classic volume on South America by Pierre Denis[6] and to two important German sources.[7] These continental maps, however, were

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are described in the author's book *An Outline of Geography* (Boston, 1935), p. 66.

[5] *Op. cit.* (see Index for each category of vegetation).

[6] Pierre Denis, *Amérique du Sud* (Vol. XV of *Géographie universelle*) (Paris, 1927).

[7] Otto Maull, Franz Kühn, Karl Troll, und W. Knoche, "Südamerika in Natur, Kultur, und Wirtschaft," *Handbuch der geographischen Wissenschaft* (Berlin, 1930); and K. Rühle, "Die Vegetationsformationen Südamerikas in ihrer klimatischen Bedingheit," *Petermann's Mitteilungen*, LXXIV (1928), 29–34, 95–100.

modified in detail by a large number of small, detailed studies. A complete list of all the publications consulted would not be possible here, but a few of the more valuable references may be mentioned.[8] The author's own field observations include chiefly work in northern Chile, Trinidad, and southern and southeastern Brazil. This map, along with the one of surface configuration, provides a general picture of the physical characteristics of the various parts of the continent.

The map showing occupance (Fig. 4) shows the present-day distribution of the chief forms of land use, and the location of the more important mines. The general sources of information are the same as for the compilation on natural vegetation. The large wall map prepared by Stappenbeck furnished information regarding the location of the mines.[9] In addition, some studies of small areas were helpful.[10]

[8] R. Maack, "Urwald und Savanne im Landschaftsbild des Staates Parana," *Zeit. der Gesell. für Erdkunde zu Berlin*, 1931, pp. 96–116; I. Stoltenberg, "Landschaftskundliche Gliederung von Paraguay," *Mitt. geogr. Gesell. in Hamburg*, XXXVIII (1927), 69–130; A. Weberbauer, "Die Vegetationskarte der peruanischen Andes zwischen 5° und 17° S.," *Peter. Mitt.* LXVIII (1922), 89–91, 120–22; H. Pittier, "Mapa ecológico de Venezuela" (Caracas, 1920); A. G. Ogilvie, "The Geography of the Central Andes," map of Hispanic America, Publication No. 1, American Geographical Society (New York, 1922).

[9] R. Stappenbeck, "Karte der Minerallagerstätten von Süd-Amerika" (Berlin, 1926).

[10] F. Kühn, "Eine neue Wirtschaftskarte von Argentinien," *Peter. Mitt.*, LXXVI (1930), 31–34, especially the map, Tafel 3; Ogilvie,

The various categories of land use were modified from a number of previous classifications. A distinction, apparently new in such classifications, is made between "commercial agriculture with a relatively large labor requirement," sometimes described as "plantation agriculture," and "commercial grain agriculture, with a relatively small labor requirement." The distinction is clearly visible by comparing these areas with the map showing population. The irrigated lands are distinguished by a special symbol overlying the land-use category. The several blank spaces on this map indicate either that too few people occupy these territories to make it desirable to include them under "migratory agriculture" or that the information was too vague to permit the delineation of a boundary.

The basic map, from the point of view of the human geographer, is of the distribution of population. Unfortunately, an exact portrayal of the distribution of population in South America is, for the moment, an impossible ideal. The chief reasons for this are the general lack of reliable census material

op. cit.; P. Deffontaines, "Pays et paysages de l'état de Saint-Paul (Brésil)," *Ann. de géog.*, XLV (1936), 50–71, 160–74; W. L. Schurz, O. D. Hargis, C. F. Marbut, and C. B. Manifold, *Rubber Production in the Amazon Valley* (U.S. Bureau of Foreign and Domestic Commerce, "Trade Promotion Ser.," Vol. XXIII [Washington, D.C., 1925]); A. Matthei, "Agrarwirtschaft und Agrarpolitik der Republik Chile," *Berichte über Landwirtschaft*, Sonderheft 119 (Berlin, 1936); Stoltenberg, *op. cit.*

and, in many of those countries where a good census has been taken within the last decade, the lack of knowledge regarding the boundaries of the smaller civil divisions. There are two distinct phases of the problem of mapping population: first, the problem of discovering and evaluating the statistics; and second, the problem of establishing exactly the area of the earth's surface to which the statistics pertain. Since neither of these problems can be answered adequately for any very extensive area in South America, most students of that continent have preferred to postpone the preparation of this essential map. The present offering must be understood as largely hypothetical—yet one which is believed to catch the main features of the distribution pattern even if its details will be altered with our increase of knowledge.

THE STATISTICS

The reliability of census material varies greatly from one country to another. The only really important national censuses were made for Brazil and Chile in 1920 and for Argentina in 1914. The state census of São Paulo is reliable and important. More or less reliable estimates for later periods in these countries and for the other countries exist.

Accepting the impossibility of finding really good census material, the author went to the easiest available sources for the latest estimates of popula-

tion. The *Statesman's Yearbook, 1935,* was checked against the figures given by Pierre Denis[11] and against the population reports published from time to time in *Petermann's Mitteilungen.* For the size of cities the figures were taken from an unpublished study of cities over 100,000 by C. C. Colby and from additional figures given in two recent commercial handbooks.[12] The sum of the urban population in each political unit was subtracted from the total to give the rural population.

RELATIVE RELIABILITY

The reliability of the resulting map is not uniform. Since most of the map was compiled on the American Geographical Society base of Hispanic America at 1:6,000,000, the computation of reliability must be based on this scale. Four different grades are recognized, of which the first grade is assigned to two areas previously compiled on a much larger scale and with statistics available for minor civil divisions. These two areas are Trinidad[13] and southeastern Brazil.[14]

[11] Denis, *op. cit.*

[12] U.S. Dept. of Commerce, *Commercial Travelers' Guide to Latin America* (4th ed.) ("Trade Promotion Ser.," No. 122 [Washington, 1931]); H. Davies (ed.), *The South American Handbook* (8th ed.; London, 1931).

[13] P. E. James, "A Geographic Reconnaissance of Trinidad," *Economic Geography,* III (1927), 87–109, Fig. 3.

[14] *Idem,* "Rio de Janeiro and São Paulo," *Geographical Review,* XXIII (1933), 271–98, Fig. 6.

The second order of reliability is given to those sections for which good statistics can be found and related to approximately county-size political divisions. The upper limit in this category for the area of a political division may be set at 5,000 square kilometers where the territory involved is varied in surface form or land use, but may be extended to 10,000 square kilometers where the surface and the character of the occupance are uniform. The parts of the map included under the more restricted areal limit are: (1) The departments of Atlántico and Caldas in Colombia, and (2) that part of Chile lying between Coquimbo and Puerto Montt. The parts of the map included in this category, but with the more extended areal limit, are: (1) Uruguay, and (2) the Argentine province of Buenos Aires.

The third order of reliability applies to the larger political divisions. In this category, however, are placed areas for which accurate maps are available to indicate the nature of the terrain, the natural vegetation, and the forms of the land use. In such regions the pattern of the population can be estimated with fair accuracy, so that the increase of knowledge is more likely to lead to changes in detail than to necessitate a revision of the pattern as a whole. Included in this category are: (1) the rest of highland Colombia, not included in Caldas; (2) western and highland Ecuador; (3) the coast of Peru; (4) northern and southern Chile; (5) the rest

of Argentina; (6) southern Brazil; (7) northeastern Brazil, from Bahia to Maranhão; and (8) the coast of British Guiana.

In the lowest order of reliability are placed the other parts of the continent. In addition to the Amazon section of Brazil with its very scanty population, for which most maps are entirely hypothetical, the populated areas included in this category are: (1) Venezuela;[15] (2) eastern Colombia and the Chaco; (3) eastern Ecuador; (4) highland and eastern Peru; (5) the plains of eastern Bolivia, excepting the section around Santa Cruz; and (6) the thinly populated plateau states of central Brazil.

[15] Venezuela might be placed in the third order of reliability on the basis of the map by H. Pittier (*op.cit.*). There is some doubt, however, of much of the detail shown on this map, so that where it has not been corrected by later field observation it cannot be given entire confidence.

CONFLICTING TERRITORIAL CLAIMS IN THE UPPER AMAZON

By Robert S. Platt

CONFLICTING TERRITORIAL CLAIMS IN THE UPPER AMAZON

The areal pattern of South American nations in relation to the grouping of population has been indicated in the previous discussion: each individual nation normally based on a major concentration of people in a productive region surrounded by less populous districts in less attractive regions to form outlying provinces (James, Fig. 1 [facing p. 218]). The major concentrations do not in all cases seem to extend to the borders of regions of high population capacity, but their peripheries approach those borders, and beyond lie regions of different potential capacity. Dr. James has focused attention primarily on the major concentrations, the central nuclei of nations. The purpose of this paper is to focus attention on sparsely populated regions, outlying provinces, boundary zones, with specific illustration from one particular boundary zone.

SOUTH AMERICAN PATTERN OF BOUNDARIES

Under the conditions already outlined, which indicate that in South America it is a normal circumstance to find a productive and populous region occupying a central position in a nation and forming the nucleus of the nation, it is likewise

a normal circumstance to find an unproductive sparsely populated region divided between nations of which the central nuclei are populous regions on opposite sides of the sparsely populated region. The equality or inequality of regional division among the nations concerned seems to depend very little upon local barriers within the region, but more nearly to reflect relative distance from major regions of concentration on opposite sides of the boundary zone, and relative strength exerted from those major regions.

The boundary zones are not unpopulated but only relatively less populated, and in many cases contain thousands of people in organized communities. Whereas the concentrated population of the central regions enjoys the advantages of national unity and home government, the sparse population of the peripheral districts tends to suffer from national dismemberment of their communities, and the dismembered parts to suffer from national relations which amount to foreign domination.

Luckily for the inhabitants, the relative unimportance of these outlying districts and their distance from centers of national authority tend to minimize local activity by national governments and, barring international friction, tend to subordinate and obliterate national boundary lines in the regional pattern of local activities. At the outset the boundary region is in effect a neutral zone

between more or less distant nations. Even after nominal partition and establishment of international boundary lines within the region, the whole area tends to remain in effect a neutral zone, unless disturbed by nationalistic overstimulation originating in other regions.

Unfortunately, nationalistic overstimulation is not uncommon, arising in some cases from circumstances entirely outside of the boundary zone and in other cases from causes within the boundary zone itself, such as the finding of hidden treasure, attracting people from major centers of population to rush to the outlying region and lay claim to it. Therefore the status of the boundary zone is likely to be insecure and increasingly unhappy unless and until its problems can be settled by international agreement in the light of its internal nature and external relations. Such problems are not likely to be solved, but ultimately aggravated, by postponement, excused on the ground that the region is far off and unimportant to the nations concerned. The matter is a subject for consideration at the present time, and the sooner the better.

To illustrate these generalities, look now at a good example of a boundary region, the Upper Amazon area. A maze of boundary lines, real or supposed, that have been drawn through this region at one time or another seems to indicate that the Upper Amazon is indeed a boundary zone.

The Pope's Line of Demarcation near the mouth of the Amazon, which was intended to separate Portuguese jurisdiction on the east from Spanish on the west, has not functioned in practice. Actual penetration and collision of Portuguese from the east and Spaniards from the west is represented by lines crossing the river far upstream. Still farther west are lines between rival jurisdictions from one and another of the capitals of the Andean nations. Our present purpose is not to untangle the history of this boundary maze but to reconnoiter the boundary region and analyze its areal relations.

The region lies between major concentrations of population near the Pacific coast, on the one hand, and near the Atlantic, on the other (James, Figs. 1 and 3 [facing pp. 218 and 232]). On the Pacific side are productive valleys and plateaus supporting relatively large groups of people and containing the national capitals of Andean nations. On the Atlantic side are the productive populous plateau and coastal regions of Brazil, and Rio de Janeiro, the national capital. Between these Pacific and Atlantic regions the sparsely populated plain of the Upper Amazon is the backyard of four nations, or the vacant lot on the back alley behind four nations—Peru, Ecuador, and Colombia on the west and Brazil on the east.[1]

[1] Bolivian boundaries are not included in the present discussion, since they involve a separate area of southwestern tributaries where

CONFLICTING CLAIMS: UPPER AMAZON

As a basis for analyzing the international problems of this backyard area, look first at the internal character of the region: What is in it? and secondly at its external relations: What are its connections with the four nations concerned?

SETTLEMENT IN THE UPPER AMAZON

First, its internal conditions. The area is forested. Although sometimes described as impenetrable jungle, or Green Hell, this equatorial rain forest is, in general, no more forbidding than mixed forests in middle latitudes. Along the banks of rivers there is a tangle of vegetation; but within the forest the trees are well spaced and there is little undergrowth; walking is easy. About 90 per cent of the land is upland plain, not swampy and never flooded. The other 10 per cent is in the flood plains of rivers crossing the area.[2]

The weather is hot throughout the year, but never as hot as the hottest weather in Chicago. The total annual rainfall is heavy; but in the less rainy season there are weeks without rain, and even in the more rainy season there is sunshine between

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conflicting claims were settled earlier. On Dr. James's map the boundary between Peru and Ecuador is shown for convenience as a straight line within the disputed area. Details of this boundary are shown in Fig. 9.

[2] W. L. Schurz, O. D. Hargis, C. F. Marbut, and C. B. Manifold, *Rubber Production in the Amazon Valley* (Washington, D.C., 1925), p. 56.

showers. People walk unarmed in the forest, and swim in the rivers, and stay healthy.

In general, as far as human comfort and safety are concerned, the region may be considered a satisfactory place in which to sojourn or to live. But what are the incentives for people to live there; and what are the conditions, regional and national, under which they live? This can be answered by reference to specific examples of settlement. There are many trading posts in the region, and three of these will serve as illustrations. The three selected spots are relatively near together, all within a radius of fifty miles; yet they are in three different nations, and all have been claimed by a fourth nation. They are: Perpetuo Soccorro, Brazil; Chimbote, Peru; and La Victoria, Colombia (Fig. 1).

Three trading posts.—Perpetuo Soccorro is two thousand miles upstream from the mouth of the Amazon and within thirty miles of the western boundary of Brazil. It is in a forest clearing on solid ground of the upland plain, *terre firme*, overlooking the river (Fig. 2). Upstream and down from the main building, houses are strung along the river bank, fourteen in all, each in its own little clearing with a patch of bananas, cassava, cane, and corn to provide food for the family. About sixty people live at the post; two or three hundred living within forty miles visit the post occasionally;

and a thousand living within five hundred miles are reached by the trade of the post.

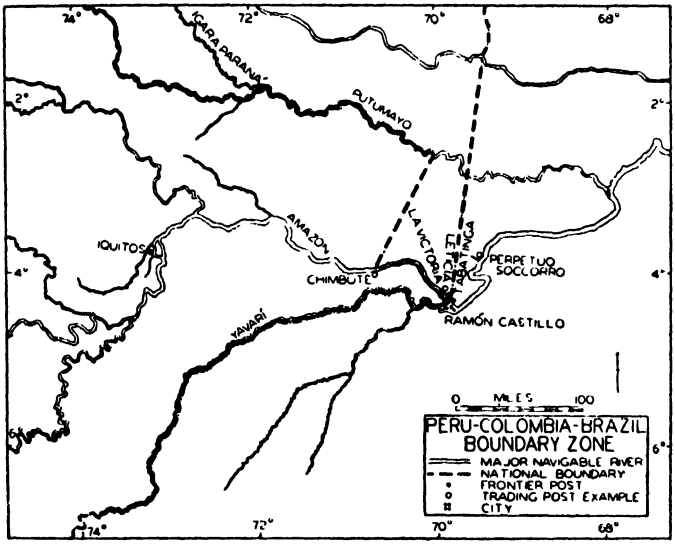


FIG. 1.—Peru-Colombia-Brazil boundary zone. Brazil, on the east side of the map, extends westward to a nearly straight boundary with Colombia and a river boundary in the Yavarí with Peru. Peru, on the west side of the map, extends eastward between the Putumayo and Yavarí, and to a point at Ramón Castillo. Colombia, from the north side of the map, extends southward to the Putumayo and, in a narrow "trapezium," to the Amazon.

Base drawn from Camilo Vallejos Z, "Mapa del Peru," 1:500,000 (Sociedad Geográfica de Lima, 1912); and American Geographical Society of New York, "Millionth Map of Hispanic America," Putumayo-Içá and Rio Juruá sheets (1930).

The trader and his junior partner are both Portuguese who have lived in Brazil for many years

and have progressed up the Amazon. Their wives are Brazilians of Indian extraction. Other people at the post are Brazilians of mixed blood speaking Portuguese. Aside from these, most of the inhabitants near and far are Indians not speaking Portuguese or Spanish and not considered to be Brazilians, Colombians, or Peruvians. The territory of the Ticuna tribe includes the post area, and extends beyond the established national boundary into Colombia; but the Ticunas are not yet conscious of the political demarcation which theoretically cuts them in two and attaches some of them to Bogotá to the west and some to Rio de Janeiro on the east coast of the continent.

Activities of the post include: hammock-making of palm fiber, wood-cutting to provide fuel for the river steamer which calls monthly on its trip from Manáos to Iquitos, trading with the Indians who come to the post for cloth and hardware in exchange for rubber balls and peccary skins. In addition the trader carries his trade beyond the range of Indian canoes by means of two steam launches. Every month one of these is dispatched to the Putumayo, crosses the boundary into Colombia, continues up the river, trading on both sides of the Peruvian-Colombian boundary, reaches a station on Igara Paraná, and then returns to Perpetuo Soccorro with a cargo of rubber and skins (Fig. 1). The other launch is dispatched every month to the



FIG. 2.—Waterfront of Perpetuo Soccorro, Brazil, showing the trader's house, two of the houses for permanent laborers at the right, shelter house for temporary laborers at the left, landing place at the extreme left, and upland forest in the background. View looking west from a river boat moving offshore.

The appearance of the various trading and military posts is very similar. The low upland bluff of Perpetuo Soccorro is hardly distinguishable from the high, natural levee of Chimbote and Ramón Castillo. See Fig. 4. The upland bluff is higher at La Victoria, Tabatinga, and Barranca.

Yavarí to trade similarly along the Peruvian-Brazilian boundary. The accumulated stock of forest products is shipped by river steamer down to Manáos, thence to be transshipped to world-markets.

Turn now to the second example, another typical trading post in the boundary zone: Chimbote, Peru (Fig. 1). Here the river is bordered by flood plain, but there is a high natural levee and, back of this, the edge of the upland plain within a quarter mile of the river. The trader's house occupies a site on the upland slope and is separated from the river only by the narrow flood-plain clearing.

The trader is a Peruvian from the Pacific coast. His laborers speak no Spanish and are not considered Peruvians. They are Yagua Indians, whose territory extends along both sides of the river and is crossed by an international boundary between Peru and Colombia, of which the Yaguas are not yet conscious (Fig. 3).

Activities of the post are less far flung than are those of Perpetuo Soccorro. The trader has no launch and is interested primarily in production from his own land, to which he holds title from the Peruvian government. Agriculture not merely for subsistence but also for commerce is practiced in the fertile strip of flood plain. Bananas, cassava, corn, cane, rice, and cotton are grown. Of these crops, the best for export has been cotton. Bags of

this are sent by river steamer upstream two hundred miles to Iquitos, to join there the flow of commodities downstream by river or ocean vessel to the Atlantic and world-markets. Other activities of the post are similar to those at Perpetuo Soccorro, including procurement from Indians of forest gums and skins in exchange for manufactured supplies, which in this case do not include white man's clothing.

Now observe the third trading post in a third nation, La Victoria, Colombia, halfway between Perpetuo Soccorro and Chimbote (Fig. 1). The owner is a Peruvian from the Pacific coast who holds the land by a title from the Peruvian government antedating the cession of the territory by Peru to Colombia. Several hundred Indians have been employed at times, and probably several hundred live within the property at present. Many Peruvians also have been employed occasionally, departing when employment ceased.

La Victoria is a type of establishment less common than the two previously described. Development includes a sugar plantation of four hundred acres on smooth upland plain with tram lines focusing on a small modern sugar mill. There is also a lumber mill on the bluff overlooking the river, sawing mahogany and Spanish cedar, of which a small amount is obtained in the process of clearing land for the plantation and a large amount is received in



FIG. 3.—Landing place at Chimbote, Peru. Yagua Indian laborers; cargo of gums, skins, and cotton for export and cordwood for steamboat fuel; river boat alongside. View looking northwest; the opposite bank of the Amazon in the background.

rafts floated to La Victoria from forest areas farther upstream. Lumber is shipped down the river for export from the region. Sugar is marketed locally in Amazonian Colombia, Peru, and Brazil.

So much for examples of settlement in an area of established international boundary lines. Obviously, the region is fairly homogeneous, and the inhabitants have interests in common not differentiated by national boundaries. In fact, they seem to thrive on ignoring national boundaries, whether or not they know of their existence. Nationality seems to be a consideration of much less significance than other matters, and people appear contented in peaceful acceptance of the *status quo*.

Considerations of nationality have been injected into the area from time to time with some interruption of peaceful pursuits. A mixed commission of one Peruvian, one Colombian, and one Brazilian is now housed in the bungalows at La Victoria trying to iron out local difficulties arising from international transfer of territory. A few miles away the three frontier posts, established by amicable agreement within sight of each other, indicate by their very meagerness and lassitude a boundary fixation which may be permanent (Fig. 1).

Three frontier posts.—The Brazilian frontier post of Tabatinga consists of a barrack building and a cluster of twenty huts in a forest clearing overlooking the river from a bluff of the upland plain, the

waterfront and pathways still unimproved after a hundred years of occupance. Across the river the Peruvian post of Ramón Castillo on a natural levee contains twelve new huts in a new clearing backed by flood-plain forest (Fig. 4). Opposite this is the Colombian post of Leticia, larger and more active than either of the other two, but with the excuse that it is not only frontier army post but also provincial capital.

Thus, for Colombia, Leticia is equivalent to Tabatinga plus Manáos for Brazil, and to Ramón Castillo plus Iquitos for Peru (Figs. 5 and 1). The patriotic strain of Colombia's long and slender reach to the Amazon is indicated by the raw and officially agitated atmosphere of the provincial capital of Colombian Amazonas, Leticia, in contrast with the mature and imposing capital of Brazilian Amazonas, Manáos, a city of eighty thousand, a focus of transportation lines, a center of public and private influence; in contrast also with Iquitos, capital of Peruvian Loreto, a city of twenty thousand.

It is of Iquitos that we have next to speak, for Iquitos is a critical phenomenon of settlement in the region, clearly involved in boundary problems. Brazil has settled its boundary disputes with its three Amazonian neighbors, and Colombia has settled its disputes with its three; but Peru and Ecuador have not settled their dispute.



FIG. 4.—Headquarters building at Ramón Castillo, Peruvian frontier post. Officials at the landing place. Flood-plain forest in the background. View looking south from the deck of a river steamboat alongside the bank.

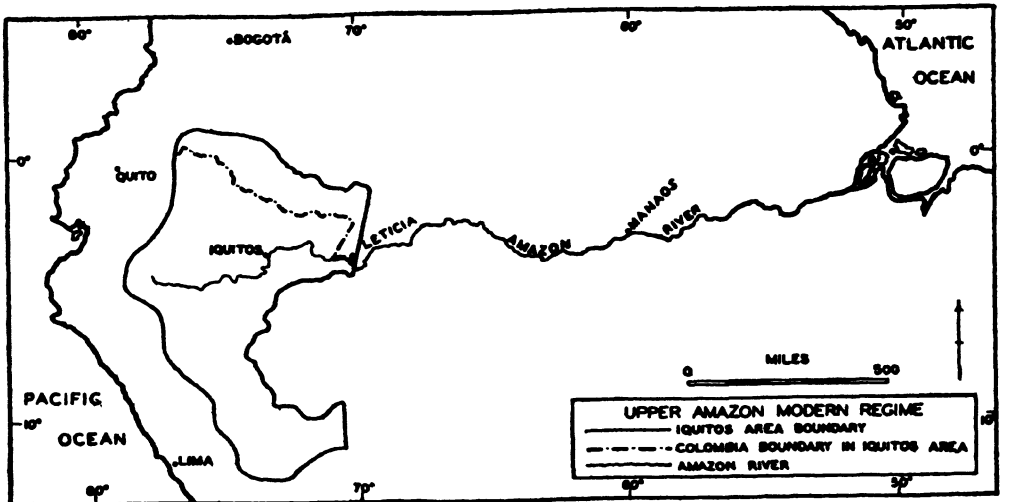


FIG. 5.—Iquitos area. Section across South America showing the area for which Iquitos is the metropolis. The eastern limit is the Brazilian boundary. The western limit is the divide separating trade which flows to the Amazon from that which flows to the Pacific. This divide is at or above the heads of launch navigation on Amazonian tributaries. The northern and southern limits represent the reach of Iquitos forest interests.

The Iquitos area approximates the province of Loreto plus Amazonian fringes of Peruvian plateau provinces on the south and west plus territory yielded to Colombia on the north.

Ecuador has not yet appeared in this discussion, although it has been a claimant to all three of the frontier posts mentioned above and is still a nominal claimant to Ramón Castillo. Also, Ecuador still has a claim to Iquitos and includes it regularly on Ecuadorian maps.

Amazonian metropolis.—Iquitos, two thousand three hundred miles upstream from the Atlantic coast, is an Atlantic seaport, better located and better developed than many a coastal harbor. It is the main focal point for lines of transportation and for regional activities in an area extending from the heads of navigation on the western headwaters of the Amazon downstream to the Brazilian boundary.

The site of the city is a smooth upland overlooking the valley at a point where the river washes the foot of the valley bluff. Ocean vessels anchor offshore; large downriver steamers, which tie up at a floating dock, function, like ocean vessels, in connecting the port to the outside world by way of the Amazon; hydroplanes provide an antithetical link with the outside world via the Pacific, upstream instead of down; small upriver steamers, which tie up along the bank, serve to connect the city with its outposts to the heads of navigation on the spreading sheaf of tributaries; upriver gunboats are serviced at a navy yard; canoes and rafts from near and far are beached at the upper end of the waterfront.

Establishments of the city are suited to local needs: commercial houses importing general merchandise and exporting gums, skins, and lumber from the forests, and cotton, coffee, and *barbasco* from plantations; sawmills and cotton gins; military and naval headquarters. Most of the big business men are Europeans; some of the smaller ones are Chinese; many of the laborers are Indians of the Amazon region; all of the government officials are Peruvians from the Pacific coast or the Andes, appointed by the Lima government. There are no Ecuadorian interests in the city and no Ecuadorians are in evidence.

EXTERNAL CONNECTIONS OF THE UPPER AMAZON

Now that the question as to what is in the Upper Amazon region has been answered after a fashion, the second question calls for consideration: What are the connections of the region with the nations concerned, the geographic bases of external political contacts? As already implied, commercial contacts are primarily not with South American nations but with Europe and North America, the chief world-markets for raw materials from equatorial forests and the chief sources of manufactured supplies. Accordingly, political relations are not based directly on trade relations but are conditioned by transportation lines between the bound-

ary region and the capital regions of the several contiguous nations, interregional travel routes of various lengths and various degrees of difficulty. Brazil has a long but unbroken waterway by sea and river from Rio de Janeiro to Tabatinga. The Andean nations have shorter but physically obstructed routes: from Lima, capital of Peru, to Ramón Castillo; from Bogotá, capital of Colombia, to Leticia; and from Quito, capital of Ecuador, to an eastern outpost. The Peruvian and Colombian routes cross the barrier to meet Brazil on the Amazon. That of Ecuador penetrates the barrier but falls short of reaching an outpost on the navigable river.

As already indicated, the Amazonian boundaries of Brazil have been fixed and so have those of Colombia. Attention is now focused on the undetermined line between Peru and Ecuador. The barrier between the Andean nations and the Amazon has loomed in the background of all Amazonian boundary arrangements; and for the line which is still undetermined, there is particular significance in irregularities of the barrier, affecting Peru and Ecuador unequally.

Interregional barrier.—The barrier itself is not the ten- to twenty-thousand-foot wall of the Andes, sometimes described as the greatest barrier chain in the world; nor is it the continental divide between Atlantic and Pacific waters. The high An-

dean plateaus are a developed integral part of each of the three western nations. In each case the accessible, habitable area extends east of high ranges and east of the continental divide to embrace the headwaters of the Amazon. The real obstacle is the montaña, the forested eastern slopes and gorges of the Andes between the plateaus above on the west and the navigable rivers of the Amazon system below on the east (Fig. 6).[3]

This barrier is a narrow zone in the case of all three of the western nations, and there are numerous passes across it. But of these passes, some are longer and more difficult than others.

Before the days of modern transportation, when the best of highland travel was by pack animal and the best of river travel was by canoe, differences between passes in the barrier were inconspicuous, for even contrasts between the barrier zone and adjacent areas east and west of it were not marked. Quito was an important plateau city almost at the threshold of the montaña, whereas Lima was far to the west in the coastal region and Bogotá far to the north, separated from the montaña by long overland journeys. Rivers rising near Quito could be navigated by canoe within the montaña above the head of navigation for modern launches. Accord-

[3] The eastern border of the montaña is less sharply defined in common usage than in the definition here suggested, because the term is used generally from the viewpoint of one looking down from the west and not distinguishing the farther border.

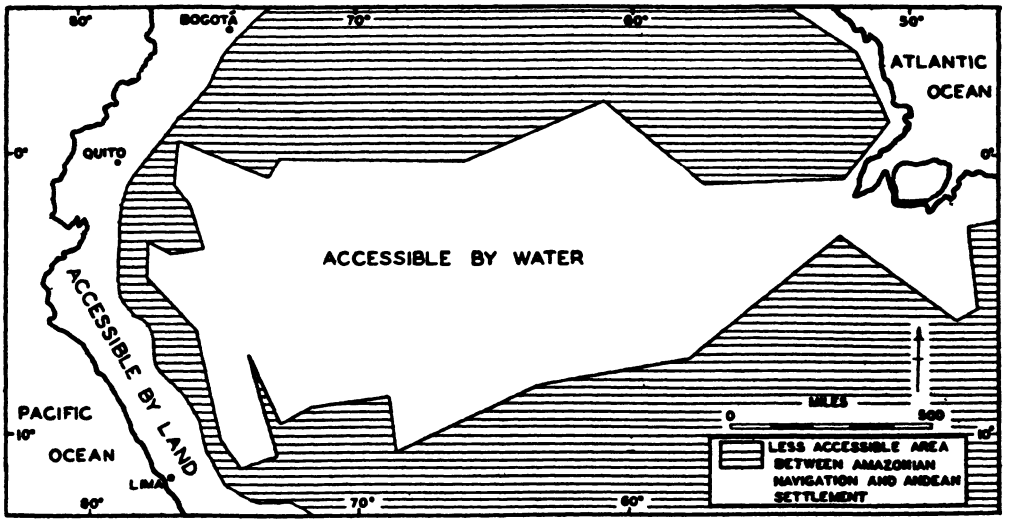


FIG. 6.—Barrier and accessible areas. The area "accessible by water" is defined by straight lines drawn between heads of launch navigation on the major Amazonian tributaries. The area "accessible by land" is the Pacific lowland and Andean highland regions bounded on the east by the montaña. The narrow zone which separates the western heads of the Amazonian waterways from the Pacific regions is the critical barrier between the Andean nations and their eastern territories.

ingly, Quito was an advantageous jumping-off place for missionaries and other emissaries to the Amazon, by any one of several montaña routes (Fig. 7).[4]

Recent penetration.—In the nineteenth century steam navigation appeared on the Amazon. More recently railways and highways have crossed the highlands from Lima and Bogotá to the montaña. Thus, transportation east and west of the barrier has been made easy, emphasizing difficulties within the barrier zone and exposing the relative merits of passes for selective use. The shortest of these passes is opposite Lima, between the eastern end of a trans-Andean highway and the western head of navigation on the Ucayali River, the route of the Pichis Trail, and now the route of airplane service to Iquitos (Fig. 7).

Of course, distance is not the only factor. The shortest pass in Ecuador was blocked in colonial times by intractable Indians, the head-hunting Jívaros. On the other hand, the easiest route prior to very recent improvements in transportation was across a longer passage of the montaña in northern Peru, where less broken and less densely forested highlands extended into the montaña, offering attractions for settlement here and there almost to the navigable waters of the Huallaga (Fig. 7).

[4] J. F. Rippy and J. T. Nelson, *Crusaders of the Jungle* (Chapel Hill, N.C., 1936), p. 198.

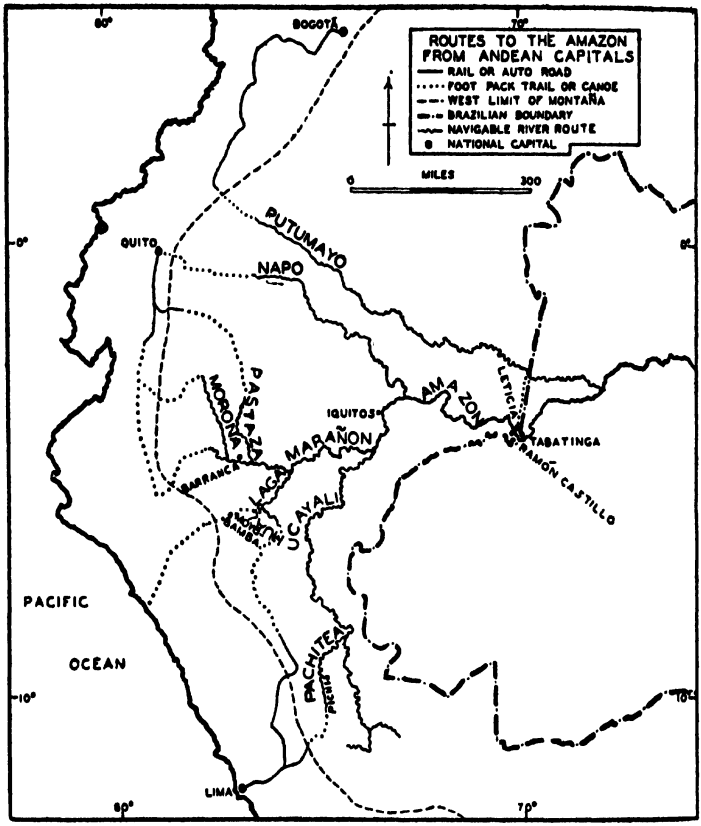


FIG. 7.—Routes to the Amazon from Andean capitals. Of the montaña trails, the northernmost, shown from Bogotá, extends to the Putumayo, Colombia's Amazonian artery. The second, from Quito, extends to the Napo, which is Ecuador's chief Amazonian contact. The third reaches the Pastaza. The fourth, to the Morona, is the route closed by the Jívaro Indians in colonial times. The fifth, to the Marañon, was the only one by which pack animals reached canoe navigation in colonial times, precarious navigation above the Pongo de Manseriche; it is not now used from Ecuador and rarely from Peru. The sixth route, shown from the northern Peruvian coast, reaches the Huallaga via Moyobamba, a provincial capital between the western limit of the montaña and the river. The seventh reaches the Huallaga above the head of launch navigation. The eighth, to the Ucayali via the Pichis and Pachitea tributaries, is the shortest and now the best developed.

Here Moyobamba served as a stepping-stone from the Andes to the Amazon, and Peruvian settlers pressed eastward and drifted downstream in a migration corresponding in a way with the movement of Brazilian settlers upstream from the overpopulated state of Ceará.

Not only are the Peruvian routes relatively advantageous, but in modern times Peruvians have had reason to leave home to seek their fortune, because of the relatively crowded condition of their coastal oases and the limitations of production on their high plateaus. This is in contrast with the Ecuadorians, who in the same period have had unoccupied forested lowlands on the Pacific slope into which to spread.

Whether or not better passes and stronger incentives to leave home account for the settlement of Peruvians rather than Ecuadorians in the Upper Amazon region, the fact remains that Peruvians entered the region and, when once established on the navigable waterways, quite naturally spread over the whole area to the head of navigation on each of the streams. The region is a homogeneous unit and is easily occupied as such with natural lines of transportation focusing on a central point. The winner over the barrier took the whole region, just as water flowing through a gap fills a whole basin. Activity by Peruvians was not confined to the area east of the Peruvian Andes but extended

northward opposite Ecuador and southern Colombia to the northwestern limits of Amazonian navigation.

The result was like a colony on an island separate from the mother-country and other countries, and coherent within itself. This fact was emphasized recently in the struggle which followed Peru's cession to Colombia of the farthermost strip of the Iquitos area. Thus, the whole region is Peruvian in its attachments, with the scant exception of Colombia's marginal strip (Fig. 5).

In this case "the whole region" is taken to be the Upper Amazon area as far downstream as the western boundary of Brazil, where the flow of population eastward from the Pacific has met the flow of population westward from the Atlantic. Of course, the entire Amazonian plain from the Andes to the mouth of the river may be considered one region, in a way, based on general homogeneity of natural environment and of settlement characteristics. Such homogeneity unbroken by the western boundary of Brazil has been suggested in the description of posts near the triple frontier. But regional distinctions on a basis of external relations are of fundamental significance in the present analysis. Therefore, the Upper Amazon region is thus defined even though the eastern border is formed by a countercurrent of humanity rather than by a difference of landscape.

An answer has been given to the question as to external connections of the region. Yet Ecuador has hardly appeared on the scene as a participant in Amazonian activities. Regional facts thus far stated seem not to provide a basis for Ecuadorian claims. Yet Ecuador has an excellent documentary case, and perhaps a better legal title to the Upper Amazon than Peru.

Former penetration.—As already indicated, Quito was the point of departure for the Upper Amazon in the colonial period, and jurisdiction over the region from Quito was officially established.[5] The region was not subdivided then any more than it is now, but was administered as a unit. Borja, at the head of navigation on the Amazon, was the capital of a territory defined in much the same way as the territory of which Iquitos is the capital at present (Fig. 8). The only two conspicuous differences are that the new capital is farther downstream, accessible to modern ocean vessels, and that the southern boundary of the territory extends farther south, opposite the Peruvian highlands.

Not only was title established by explicit and long-continued jurisdiction from Quito, but the validity of the title as carrying over from the Spanish colonies to the succeeding nations was recognized in agreements between the national

[5] P. Flores, *History of the Boundary Dispute between Ecuador and Peru* (New York, 1921), pp. 33–35.

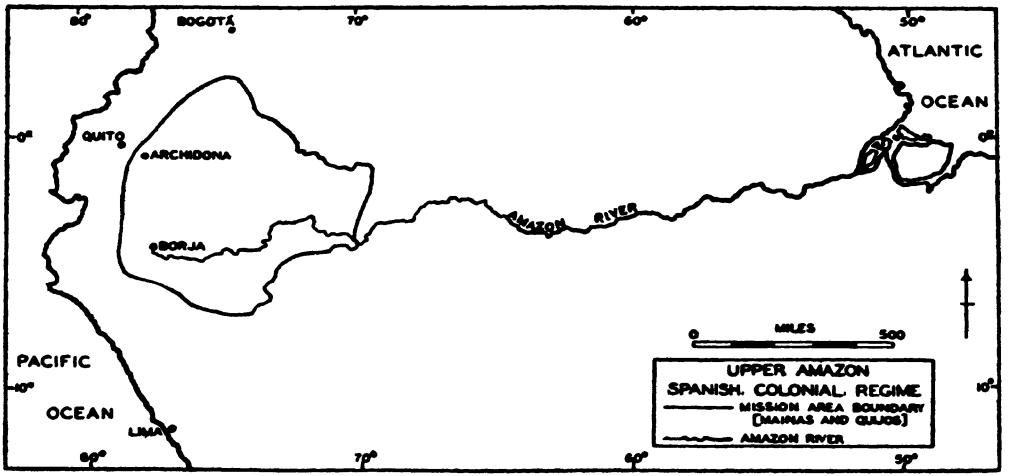


FIG. 8.—Upper Amazon colonial mission area. The eastern limit is the divide between Spanish missions from the west and Portuguese from the east. It approximates the modern boundary between Brazil and the Andean nations. The western limit is the western edge of the montaña. The northern and southern limits indicate the reach of activity from the Quito focus. Two outlying centers of authority are shown, indicating divided jurisdiction. However, one of these, Archidona, is in the montaña above the head of navigation and its territory of Quijos largely in the montaña, leaving Borja at the head of navigation on the Marañon as capital of Mainas, a territory including most of the navigable river system reached now from Iquitos.

Based on P. Flores, *History of the Boundary Dispute between Ecuador and Peru*, maps; J. Pinkerton, *Voyages and Travels* (London, 1813), XIV, 229; etc.

governments early in the nineteenth century.[6] On this basis Peru may be called a squatter in the upper Amazon.

International problem.—Thus the case stands for judicial consideration (Fig. 9). Is this a judgment of Solomon? Should the infant region be dismembered and the parts divided between the claimants, or should it be given whole to its legal mother, or whole to its foster-mother? If the international problem is to be settled with any approach to mutual satisfaction for the parties concerned, Ecuador's claim supported by legally defensible rights is not to be ignored, even though Ecuadorian interest in the Iquitos area is a matter of traditional sentiment and future possibility rather than of current activity. At the same time, Peru has rights of a sort that have been recognized in practice by all the nations concerned in settling their boundary controversies with Brazil, a squatter in the Amazon Basin from the very mouth of the river against the Line of Demarcation.

In settling conflicting claims, mutual satisfaction suggests compromise, and compromise implies partition. Friends of Ecuador have been inclined to concede the southern part of the Iquitos territory

[6] A shift of residual jurisdiction to Lima late in the colonial period gives Peru some show of inherited rights as a basis for claiming not only territory now held by Peru but also some held by Ecuador in the montaña near Quito (Fig. 9) (N. Clemente Ponce, *Limites entre el Ecuador y el Peru* [Quito, 1936], pp. 14–16).

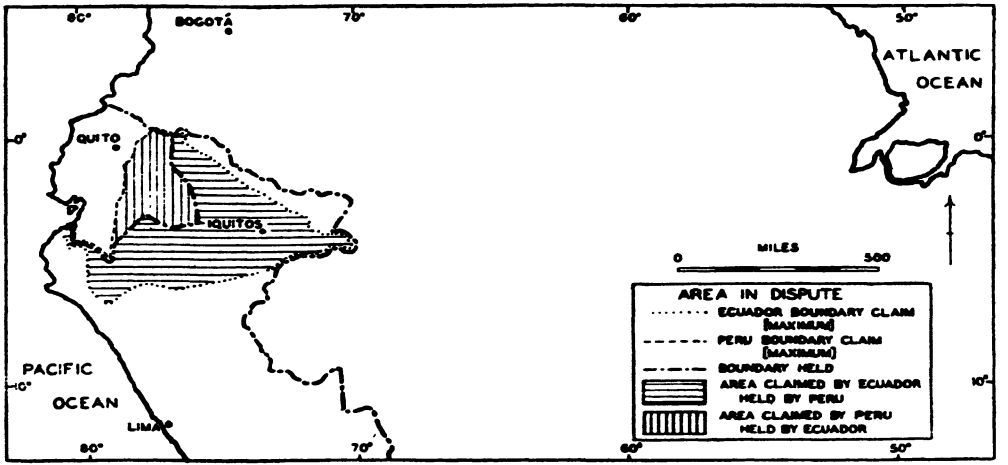


FIG. 9.—Area in dispute. Within the disputed area the "boundary held" is not based on military outposts, which have been sporadic and shifting, but on the heads of launch navigation on Amazonian tributaries, the usual limits of Peruvian activities upstream and of Ecuadorean downstream. The overlap between maximum claims represents the bulk of the colonial mission area, claimed as a whole by both Ecuador and Peru. The principal subtraction from the mission-area claims is a northern strip for which there was a third claimant, Colombia. This strip has been yielded to Colombia by Ecuador and Peru individually, Ecuador having yielded more than Peru, as indicated by the isolated bit of undisputed Peruvian territory between the boundary held by Peru and the maximum claim of Ecuador. The isolation of this northern bit of territory is only apparent on paper, since in its active relations it forms an integral part of the Upper Amazon area focusing on Iquitos and held by Peru.

to Peru and to suggest the east-west line of the main river as a "natural boundary." But this suggestion overlooks the fact that the river is not a natural boundary but a natural backbone through the midst of the region, that the territory has hung together persistently as an undivided unit. A similar suggestion is that Ecuador be given any goodly portion of the territory on the ground that the smaller nation lacks room for expansion and that Peru would still have plenty of frontage on the Amazon and plenty of forest land.

Both these suggestions point to dismemberment of a unit of human occupance by two nations regionally foreign to it. In case of partition, people of the Iquitos area might appropriately invoke the doctrine of self-determination of population groups. Indeed, a case equivalent to such invocation has already occurred in the struggle against Peru's cession of the marginal area to Colombia. Local resistance to the change of sovereignty was an indication not so much of antipathy to the Colombian nation and preference for the Peruvian nation as it was of objection to separating a part of the Iquitos area from Iquitos, dismembering the region. The distant national governments at Lima and Bogotá which had settled the matter to their own satisfaction found themselves involved against their will. After a period of international consternation and some fighting, separation was enforced,

though kept nominal and inconspicuous in the sight of local inhabitants, as indicated by unhindered wanderings across boundaries in the vicinity of the triple frontier.

Thus there is a wedge of precedent in favor of partition. Colombia has been accommodated with a slice of the Amazon. Can the remaining dispute be settled in a way that will not insult Ecuador's justifiable desire or injure Peru's active interests or violate patent regional unity?

A GLIMPSE OF DISPUTED TERRITORY

Before considering this question, let us return to the Upper Amazon for a few minutes. Our previous close-range observations were confined to posts on the Brazilian border of the region, far removed from Ecuador. On Amazon frontiers, Peru is represented not only by the post of Ramón Castillo east of Iquitos but also by Barranca, three hundred miles west of Iquitos, toward Ecuador (Figs. 5 and 10).

Barranca is in a forest clearing on a bluff of the same smooth Amazonian plains, overlooking the main river, here called the Marañon. A small company of Peruvian soldiers occupies the barrack building. Most of the men belong in the Amazon region. The lieutenant in command is from the Pacific coast of Peru. The post is hemmed in by forest, and there is no productive activity in evi-

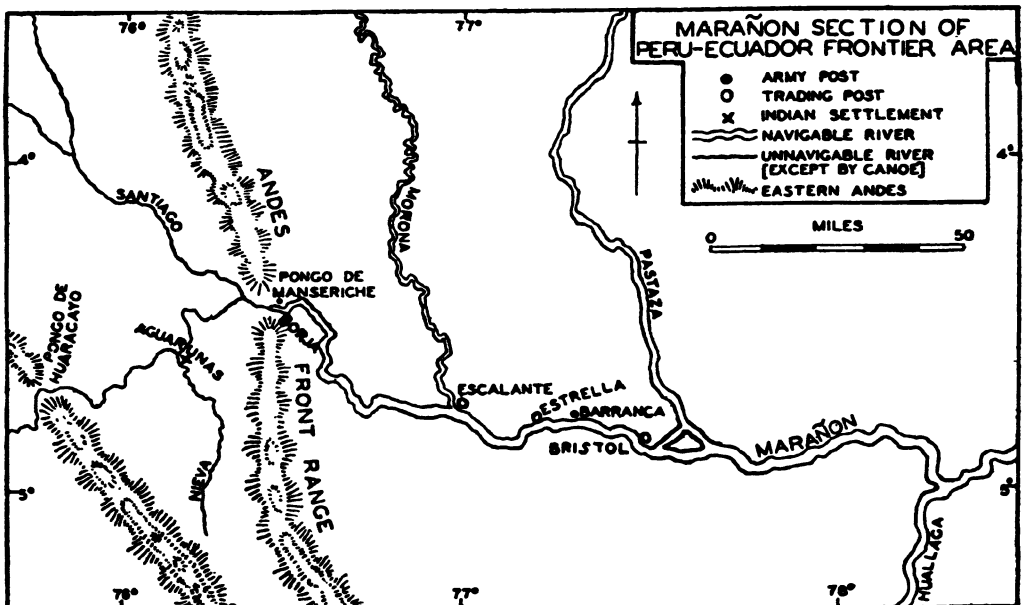


FIG. 10.—Marañon section of Peru-Ecuador frontier area. Base drawn from Camilo Vallejos Z, "Mapa del Peru."

dence. Neither is there any sign of Ecuadorians in the vicinity.

Near by is a trading post, La Estrella, in a similar clearing overlooking the river. The Peruvian who lives here is interested chiefly in washing gold from black sand found by Indians in low-grade flood-plain deposits.

East and west of Barranca, major northern tributaries join the Marañon, the Pastaza and the Morona (Fig. 10). The Pastaza rises in the heart of the Ecuadorian plateau and flows southeastward, unnavigable except in the lower part of its course. At its mouth is a Peruvian trading post, Bristol. The Morona is a smaller river but navigable farther north than the Pastaza and nearer to the Ecuadorian plateau, forming the short Ecuadorian route closed by Indians. Near its mouth is another Peruvian trading post, Escalante. Indians of the Morona bring in small quantities of skins and gums, and a few miscellaneous Indian products; and twice a year the trader takes his accumulation by raft to Iquitos.

Forty miles west of the Morona is the head of navigation on the Amazon, at the water gap, the Pongo de Manseriche, where the Marañon leaves the easternmost range of the Andes (Fig. 11). On the site of Borja, the colonial capital of the Upper Amazon, just below the gorge, there is one house, occupied by a Peruvian, the only house observed

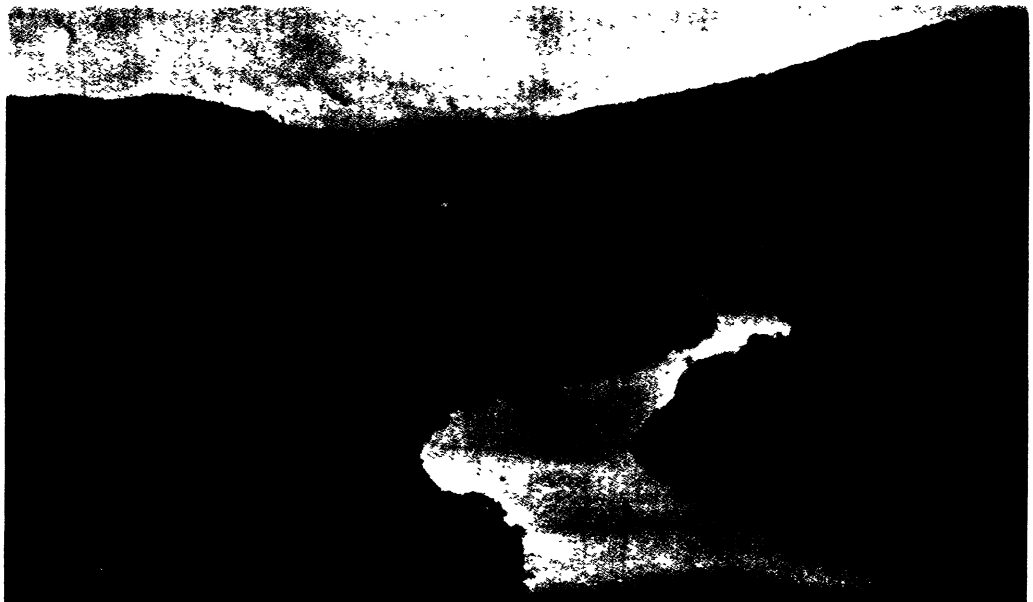


FIG. 11.—The Pongo de Manseriche, water gap of the Marañon through the easternmost range of the Andes, the head of navigation on the main stem of the Amazon. Site of Borja, colonial capital of the Upper Amazon, on the river bank at the right. View from the air looking west, upstream.

in journeying between the Morona and the head of navigation on the Marañon. Unlike the vicinity of the Brazilian boundary, where the three posts mentioned are taken as examples of a larger number, the five settled spots mentioned here from the Pastaza to the Pongo are apparently the only ones in a distance of a hundred miles.

Above the Pongo is the relatively inaccessible zone of the montaña at a point east of the break between the Peruvian and Ecuadorian plateaus and therefore not in close contact with either Peru or Ecuador. Nationally it is almost a no-man's-land. In the area are settlements of Aguarunas, Indians of the Jívaro tribe. An example of their occupance is found near the mouth of the Nieva River. In the clearing a little subsistence agriculture is carried on, in which cassava is the chief crop. The Aguarunas hunt and fish and produce most of the supplies which they need, and are politically independent. They are in blissful ignorance of the fact that they inhabit a zone of international tension, that their group lives astride a potential national boundary, and that some of them are in danger of being designated as Peruvians and their brothers across the river of being designated as Ecuadorians, with a boundary between.

Here is seen a landscape which, on the one hand, does not fit readily into a frame of national units, but which, on the other hand, does not seem to

offer great obstacles to reasonable management by civilized nations.

WORLD-WIDE IMPLICATIONS

In closing this presentation of details about the Upper Amazon, let me jump to generalizations of broader application, suggested by the Amazonian situation, subject to verification from other evidence.

In considering policies of national organization and international co-operation, we need not expect to find regional unity for nations and so-called "natural" boundary lines visible in the landscape and satisfactorily separating population groups. On the contrary, we should expect to find peripheral regional discord and dismemberment of outlying population groups.

We need not expect nationalism to provide a perfect frame into which all groups of people in all areas can fit satisfactorily. The frame is too limited for universal application. A nation cannot be as small as one family or one tribe and cannot be as large and scattered as the British Empire. Small nations have difficulty in maintaining full membership in the fraternity of nations, and large nations have difficulty in living up to an ideal of national unity in their internal and external relations.

A nation is a device for organizing major groups of population in the areas which they inhabit into

units which can be maintained and controlled in some of their internal and external relations. Nations are less fundamental phenomena than the grouping of people in the areas to which they are attached, and probably less permanent phenomena than this grouping in these areas.

We need not expect to arrive at a solution for national problems through ultimate amalgamation of national areas into homogeneous units developed evenly to their boundaries and fitting neatly into place between similar neighboring units. Supported by political maps on which nations appear in solid colors, some planning and governing have been done as if homogeneous areal unity of nations were already an accomplished fact. Even where this is known not to be the case, some thinking is done as if homogeneous areal unity were to be accomplished in the foreseeable future. Yet it is not now an accomplished fact and never will be, to the end of the world on which we have to live.

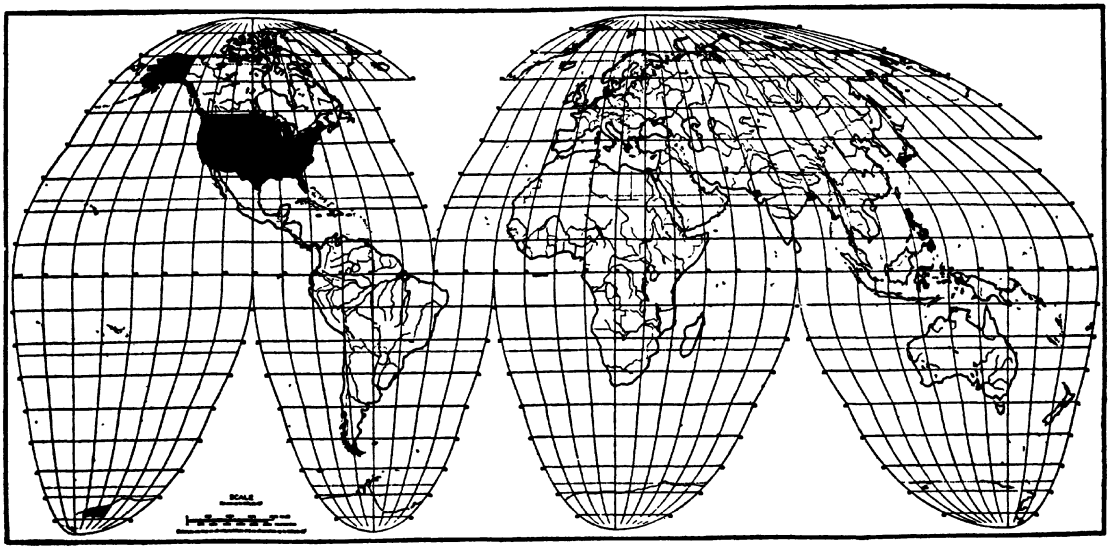
This is not a reason for discarding national organization but is a reason for considering it merely a present convenience for certain purposes. Families, tribes, townships, provinces, and nations—all are convenient units of organization for people occupying our world. So are international alliances and leagues, and so might be other kinds of subnational, international, or supernational units based on people inhabiting areas.

With reference to boundary zones, the idea of buffer-states seems to have a sound basis. It might be carried further to include buffer-provinces or neutralized boundary regions even where military pressure is not a consideration, to eliminate some evils of international boundary lines, as a step away from excesses of nationalism. Presumably the policy would tend to increase the number of boundary lines and to decrease the violence of their functions.

Whether or not this particular suggestion is generally usable need not concern us. But it is a matter of concern that we think freely of possible modifications of political structure in the light of regional facts rather than in the light of preconceived theories, to bring about increased flexibility and adaptability of international organization, not only along boundaries but in all world-relations. Nations dominate the present. Other forms of areal organization conceivable in the present are destined to dominate the future, unless the nations in their day destroy the areal groups of people upon which all such forms are based.

TERRITORIAL MAPS OF NINE NATIONS

By HENRY M. LEPPARD

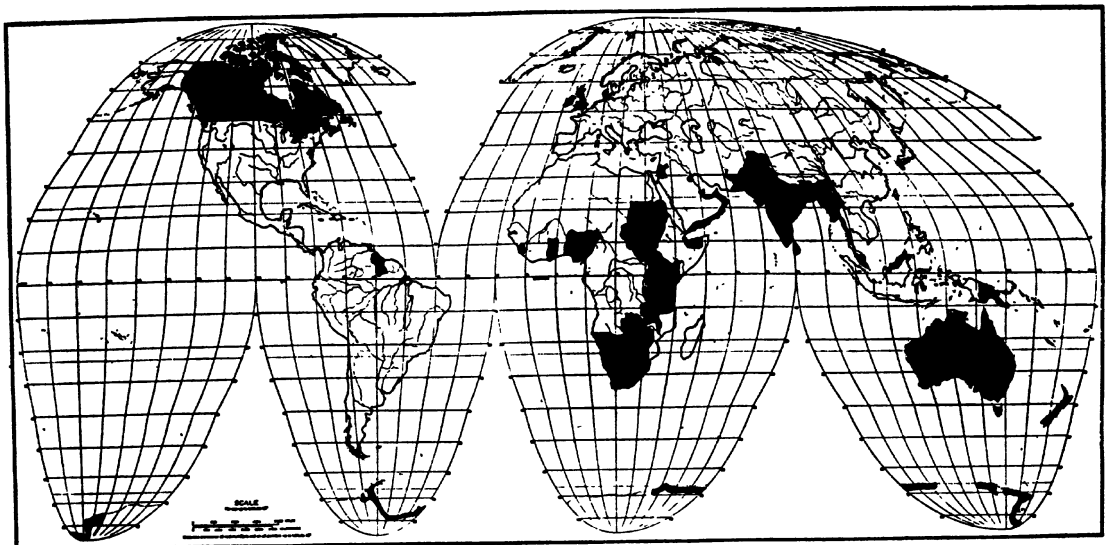


UNITED STATES TERRITORY

AREA OF 4,400,000 SQ. MI. - 7.6 PER CENT OF WORLD LAND AREA

POPULATION OF 140,300,000 - 6.7 PER CENT OF WORLD POPULATION

NORMAN WAIT HARRIS FOUNDATION - THIRTEENTH INSTITUTE, 1937

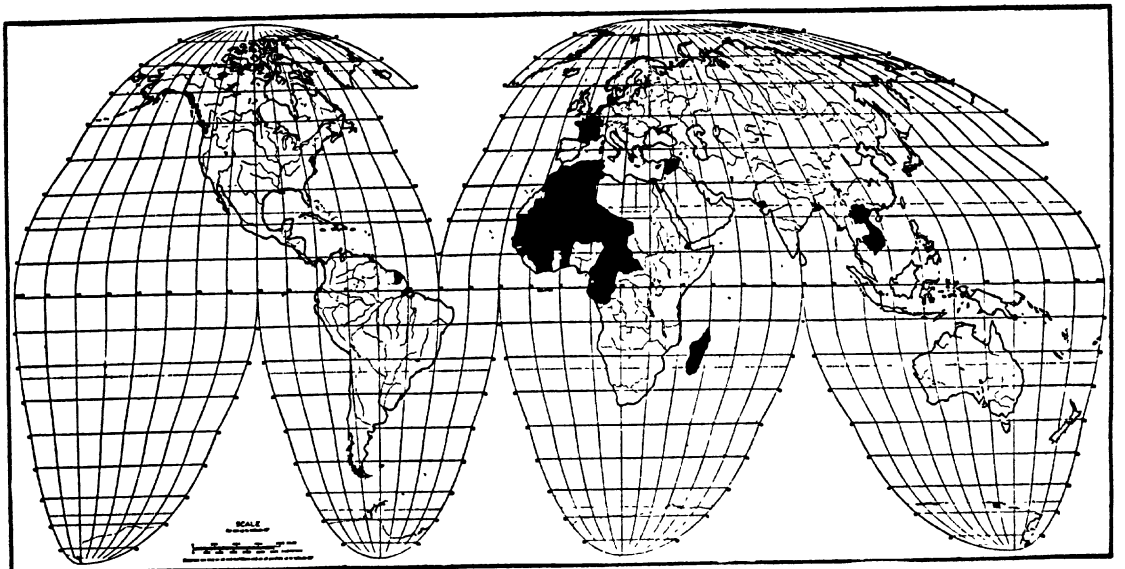


BRITISH TERRITORY

AREA OF 13,400,000 SQ MI - 23.2 PER CENT OF WORLD LAND AREA

POPULATION OF 495,800,000 - 23.6 PER CENT OF WORLD POPULATION

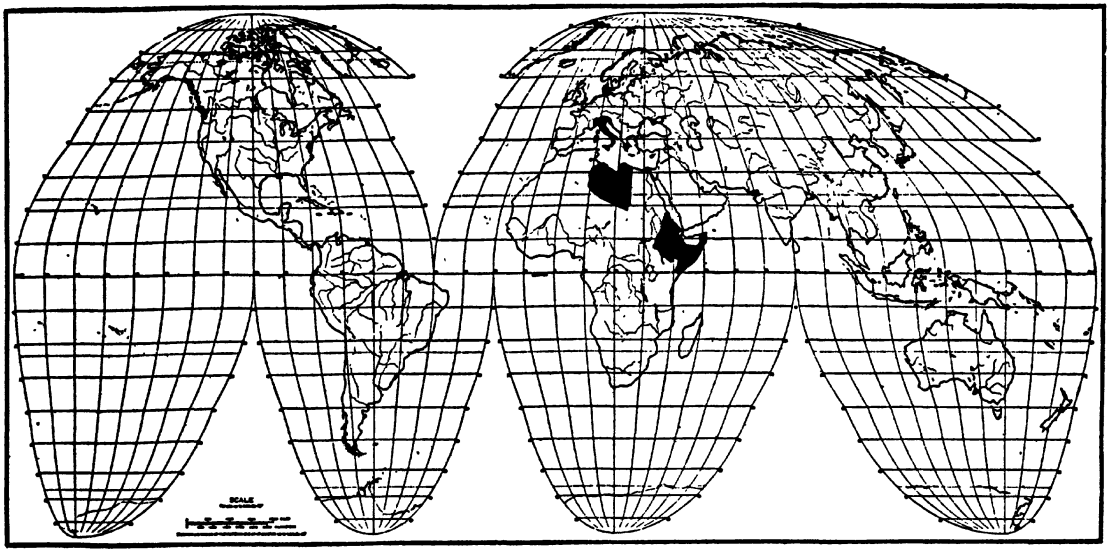
NORMAN WAIT HARRIS FOUNDATION - THIRTEENTH INSTITUTE 1937



FRENCH TERRITORY

AREA OF 4,800,000 SQ MI - 8·4 PER CENT OF WORLD LAND AREA

POPULATION OF 105,800 000 - 5·0 PER CENT OF WORLD POPULATION

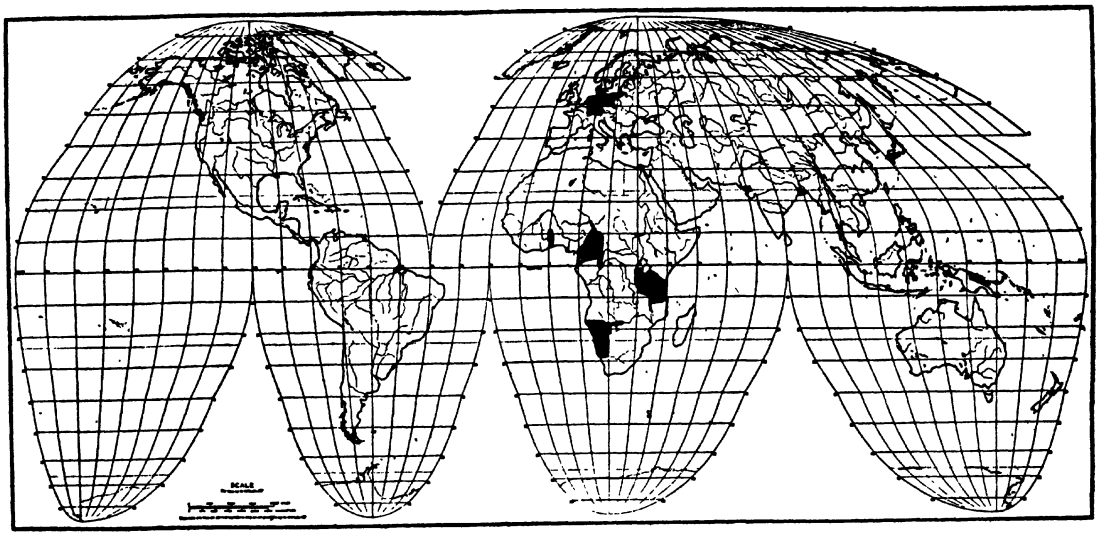


ITALIAN TERRITORY

AREA OF 1,400,000 SQ. MI. - 2.5 PER CENT OF WORLD LAND AREA

POPULATION OF 50,500,000 - 2.4 PER CENT OF WORLD POPULATION

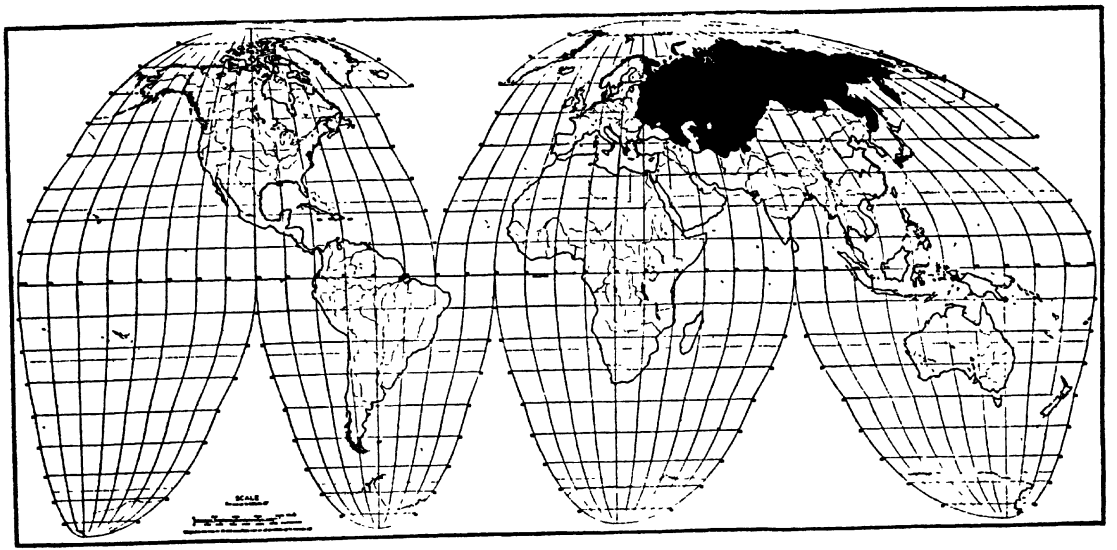
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GERMAN TERRITORY - 1914

AREA OF 1,200,000 SQ. MI. - 2.1 PER CENT OF WORLD LAND AREA
POPULATION OF 78,400,000 - 3.7 PER CENT OF WORLD POPULATION

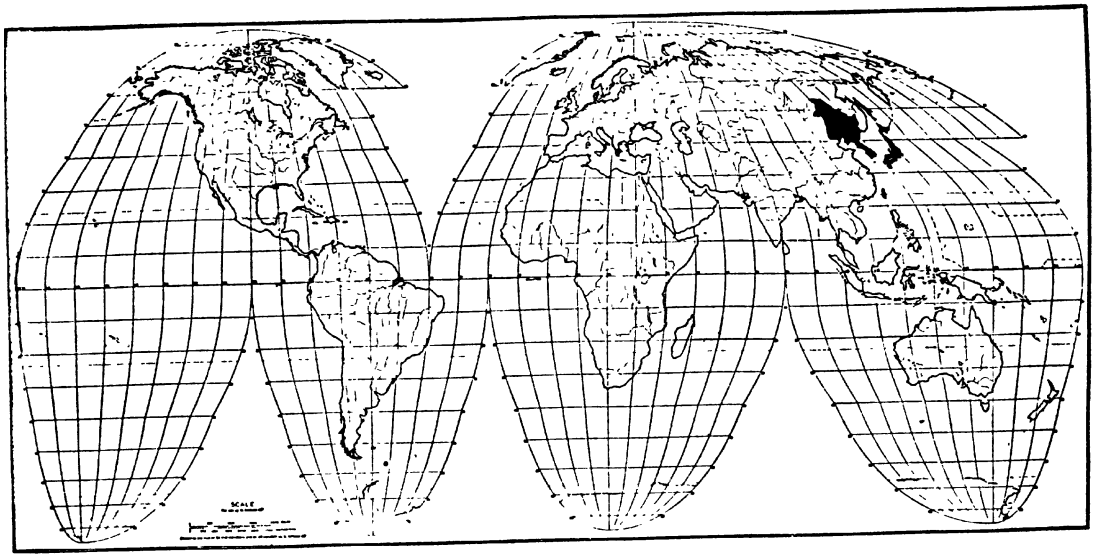
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SOVIET_ TERRITORY

AREA OF 8,200,000 SQ MI - 14 3 PER CENT OF WORLD LAND AREA
POPULATION OF 165,700,000 - 7 9 PER CENT OF WORLD POPULATION

NORMAN WAIT HARRIS FOUNDATION - THIRTEENTH INSTITUTE, 1937

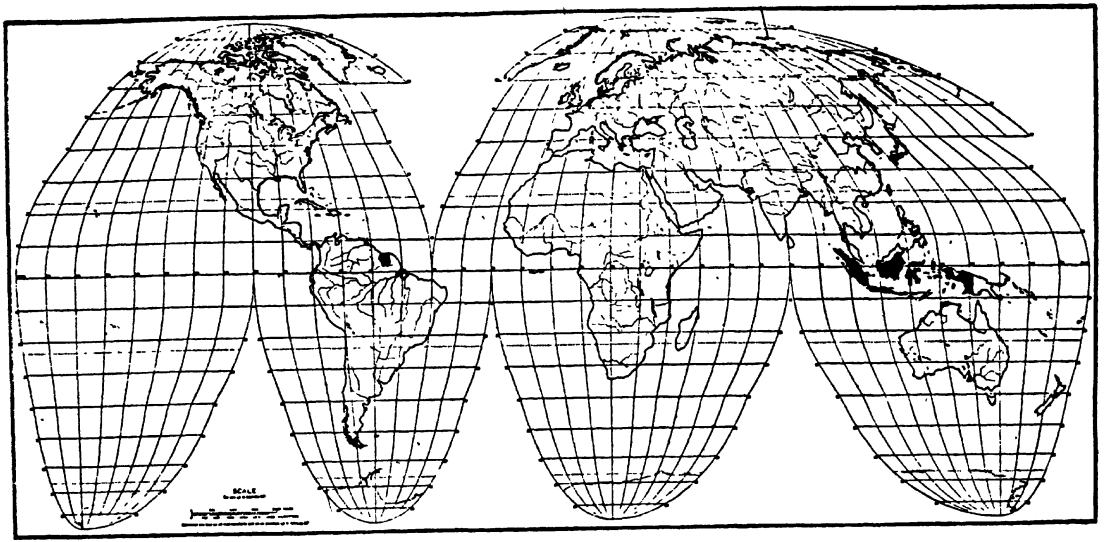


JAPANESE TERRITORY

AREA OF 627 000 SQ MI - 11 PER CENT OF WORLD LAND AREA

POPULATION OF 122,300 000 - 58 PER CENT OF WORLD POPULATION

NORMAN WAIT HARRIS FOUNDATION - THIRTEENTH INSTITUTE 1937

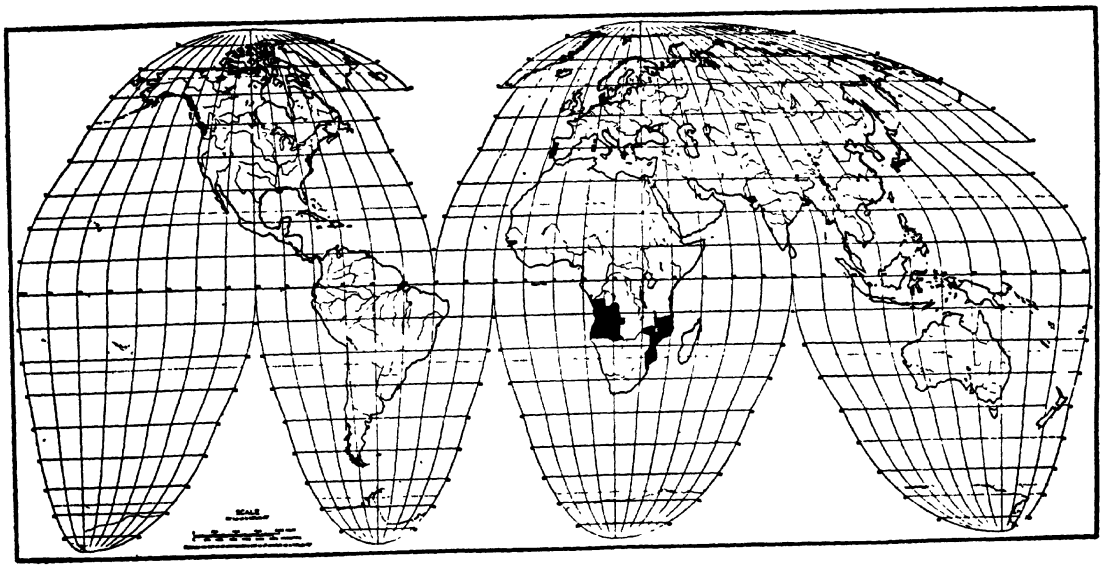


DUTCH TERRITORY

AREA OF 803,000 SQ MI - 1·4 PER CENT OF WORLD LAND AREA

POPULATION OF 69,300,000 - 3·3 PER CENT OF WORLD POPULATION

NORMAN WAIT HARRIS FOUNDATION - THIRTEENTH INSTITUTE 1937



PORTUGUESE TERRITORY

AREA OF 788,000 SQ MI - 1·4 PER CENT OF WORLD LAND AREA

POPULATION OF 15,700,000 - 0·1 PER CENT OF WORLD POPULATION

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